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CONFERENCE REPORT ON—

**The Contribution
of Extension Methods
and Techniques
Toward the
Rehabilitation of
War-Torn
Countries**

Washington, D. C.

September 19–22, 1944

**UNITED STATES DEPARTMENT OF AGRICULTURE
EXTENSION SERVICE AND
OFFICE OF FOREIGN AGRICULTURAL RELATIONS
OCTOBER 1945**

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Foreword

Purpose of the Conference

After the First World War, agricultural research workers and technicians from many countries came to the United States to learn about our research and our methods of extending the findings of science to farm people. Indications are that now the Second World War is ended, a similar situation may develop, but the number of students may be much larger. The war-torn countries will want to rehabilitate their agricultural plant as soon as possible. That science will play its part in this rehabilitation seems clear. The role of science in this work, however, must not be confined to the laboratory and the industrial workshop. It must be extended to farm people at their work in the farm home, the dairy and livestock barn, the field and meadow, with proper interpretation and assistance given in applying it.

Realizing that when the war came to an end there would be a degree of urgency in restoring the agricultural plant, the Office of Foreign Agricultural Relations and the Extension Service, jointly, called this Conference to bring together the available information on extension methods and to analyze past experiences in extending scientific information to farm people, so that this fund of knowledge might be made applicable to people in war-torn areas. The information mobilized at this Conference and contained in this report is available to all countries that may find it useful.

The Conference findings will be valuable to our own Department of Agriculture, for they will be the informational basis for setting up an effective extension training program for agricultural students and technicians coming to the United States from the war-devastated areas. With the type of orientation this Conference provides, we may hope to keep our training program geared closely to the needs of the countries from which these students and technicians come. Past experience has shown that extension, wherever it is found, must be oriented to the culture of the area. We want, therefore, to understand the culture of other countries, to be prepared to assist them in a forthright and constructive manner, and to give them whatever they need and request in the way of orientation to our extension organization and methods. The fact always should be kept in mind, however, that each country has had certain experiences in extending scientific knowledge to farmers, and the needs of each country will vary as its culture varies.

Procedure

The Conference was organized around nine areas, with a committee for each:

1. The Balkans: Hungary, Rumania, Yugoslavia, Bulgaria, Greece, Albania.
2. Southwestern Europe: Italy, Spain, Portugal.
3. The Middle East: Egypt, Palestine, Trans-Jordan, Lebanon and Syria, Iraq, and Iran.
4. Western Europe: France, Belgium, the Netherlands, Switzerland.
5. Central Europe: Czechoslovakia, Poland, Germany, Austria.
6. The Northern Countries: Denmark, Finland, Iceland, Norway, Sweden.
7. India.
8. Eastern Asia: China, Taiwan (Formosa), Korea (Chosen), and Japan.
9. Southeastern Asia, Malaysia and other Pacific island groups: Burma, Thailand (Siam), Malay States, French Indo-China, British Borneo, Netherlands East Indies, Philippine Islands, New Guinea, the Fiji Islands, and Guam.

A tenth committee concerned itself with the experiences and contributions of private agencies in the field of extension.

These 10 committees were constituted early in June, and worked up to the time of the Conference assembling all pertinent and available information on extension from the various countries being considered. After the Conference, the findings of each committee were further refined and later reviewed by all its committee members.

Each committee concerned itself with three major points: (1) A brief description of the region and the significant points in the culture of each country; (2) a description and evaluation of the extension history and experiences of each country; and (3) the development and interpretation of the guiding principles of extension applicable to the culture of each country.

Those in Attendance

Invitations to the Conference were extended to (1) technicians who were familiar personally with extension work in the regions concerned and had worked as committee members on various regional committees set up prior to the assembling of the Conference; and (2) other technicians personally familiar with conditions in the regions who, it was felt, might have a contribution to make to the Conference. All persons were invited in their capacity as private individuals and not as representatives of any agency, group, or country.

The Conference consisted of both general sessions and meetings of the regional working committees, which during the sessions were expanded to include some out-of-town membership. A large number of interested persons attended the general sessions. Of this number, about 150 participated actively in the work of the regional working committees.

Committee Reports

This was an informal fact-gathering conference carried on under thoroughly democratic methods. The committees were instructed to follow a general outline for presenting their reports and were assured that their findings would be issued without change. Therefore, the committee reports included in this document contain the findings of the committees and do not necessarily represent the views or policies of the United States Department of Agriculture or any other agency of the United States or other Governments.

DOUGLAS ENSMINGER, *Chairman,*
Conference Over-all Committee.

Conference Report on the Contribution of Extension Methods and Techniques Toward the Rehabilitation of War-Torn Countries

Washington, D. C., September 19-22, 1944

A Report by the Extension Service and the Office of Foreign Agricultural Relations, United States Department of Agriculture

OBJECTIVES OF THE CONFERENCE

By

M. L. WILSON, *Director of Extension Work*

This Conference was originally planned for a group of about 20 people. We are gratified to see how the group has grown. The Conference retains, however, the informal and unofficial status originally intended.

At the outset, we want to state clearly that this is not an international conference. It should not be construed as such in any way. Those who take part in it are not here as official representatives of any agency or government. We do not contemplate the making of plans or building of a program of agricultural extension work for the entire world. There will not be considered at this time, either in the general sessions or in the working committees, programs or policies relating to international agriculture, or to international cooperation in the field of agricultural education. All discussions that have to do with the political aspects of world agriculture are, therefore, out of order, and the chairman will be obliged to so rule should any questions of a controversial and political nature be asked at any time during the conference.

We are honored by the presence of outstanding authorities on many countries in the fields of agriculture, home economics, and the biological and social sciences as these apply to agricultural research and education. All have been invited as individuals with a special contribution to make. Their contributions as members of the 10 working committees will be of inestimable value in developing the committee reports.

So, as I have said, this Conference is not coming forth with an extension program for the world. It is modest in its ambitions. The Extension Service and the Office of Foreign Agricultural Relations of the Department of Agriculture are holding the Conference to de-

velop such information as is necessary to answer questions asked of us; and to render advisory assistance in shaping rural educational programs wherever such assistance is requested.

We in the United States Department of Agriculture have thought a meeting of this kind would bring together many experienced technical people who could participate with us in shaping our thinking as to the principles that have grown out of 30 years of State-Federal cooperative extension work in this country and extension experiences abroad. The desire of the cooperative Extension Service, both here in the United States Department of Agriculture and in the State extension services of the State agricultural colleges, is to be cooperative with other countries, make available to them all information on extension principles and methods, and provide to their students an opportunity for observations on extension work in practice.

When we made our first plans to bring together a small group of people, our objective was to include those who understand extension work in this country and others who have had extension experience abroad. An impressive number of persons who have been trained and have become professional educators in the Extension Service here, have since been employed by various governments in different parts of the world. We have, for instance, as working members of this conference, people who have been directly in charge of significant rural improvement programs in India, the Balkans, and China. One of the men here spent a considerable number of years applying agricultural science to the conditions existing in Thailand. Others have had experience in the Middle East, in the Philippine Islands and Southeastern Asia, in Korea, and in the various parts of Europe. Over the years a broad and helpful experience has also been obtained through our agricultural missionaries, particularly in Asia and North Africa. We appreciate the cooperation of these groups of private agencies with this Conference.

World Interest in United States Agriculture

The purpose of the Conference can be briefly stated by giving you the background. As the present world struggle reaches its climax, mankind is aware that in the future practically every nation will be affected by wars if they are allowed to develop. Judged by the present scientific knowledge available, hunger has through the ages been perhaps the primary cause of the troubles and disturbances responsible for war. Today we know that food will play an increasingly important role in winning and maintaining peace. Insuring ample food for its people will be the number-one problem of most nations after this war is over.

We, in the United States, have become increasingly conscious of the fact that other countries are interested in the agricultural progress we have enjoyed. Since the First World War ended, even we have become aware of the tremendous advance in our production methods. We do not exaggerate when we say that in the field of scientific farming progress in the past 25 years has kept pace with other technological fields such as aviation, transportation, and industrial production. So it was natural that between the First and the Second World Wars, students and technicians of many countries came to the Department of Agriculture, and to our land-grant colleges, for the purpose of

studying agriculture and taking home with them the knowledge so gained.

Many of these people have observed with amazement the progressive attitude of farmers in the United States toward agricultural science. Agriculturists who came here to get acquainted with our agricultural research have gone home with full recognition that not agricultural research alone, but the teamwork developed between research and extension work also is responsible in this country for such an advanced degree of scientific agriculture and high standard of living for the millions of farmers who practice it. These foreign students have been impressed by the confidence our farmers place in the results of science, their eagerness to change from old methods to new, and their acceptance of farm practices based on scientific knowledge.

This progressiveness on the part of United States farmers has been striking. Their interest extends beyond matters dealing solely with production to include scientific developments in the economy of the home and bringing about better standards of home living. Since the farm family is a unit and successful farm production is intimately tied up with living better, home economics extension and agricultural extension are intimately tied together. Likewise, extension work in this country recognizes the tremendous importance of local leadership and of interesting youth in what, for a large number of them, is to be their life occupation. The Nation owes much to the contributions of the extension 4-H Club program, which interests young people in the activities of the farm and of the local community. Thus, this program builds democratic citizenship and insures increased production and better farm living as well. When Henry A. Wallace was Secretary of Agriculture, he repeatedly emphasized the great importance of the family unit on United States farms. He saw it as the core of rural democracy and progress in the age of science.

The Department is repeatedly being asked by the representatives of foreign governments and people interested in the development of world welfare for advice and assistance in developing educational methods in their respective countries. We have, for instance, developed close relations with many Latin American countries. A number of Latin American students are studying agricultural methods in the United States. Currently these students are representing Brazil, Chile, Colombia, Ecuador, Honduras, and Venezuela. They are getting acquainted with our latest farm practices, from artificial insemination of dairy cattle to poultry keeping, cheese making, rice production, irrigation, and care and operation of agricultural machinery. In these and many other fields, these students have asked not only: "How do we get agricultural research?" but also, "How do we get the results of that research into the hands of those who work and live on the land?" So, in their studies here, they are showing a particular interest in our extension methods in order that they may go back to teach agricultural science to their farmers.

In the belief that these questions are uppermost in the minds of agriculturists from many nations, the conference is asked to assist the Department of Agriculture in establishing a guiding set of principles, as well as in recommending the application of these principles to the various sections of the war-torn world. The recommendations coming out of this conference, however, will be made entirely in the

spirit of helpful assistance, each country having freedom of determination in choosing whatever means it believes most desirable in the development of its own extension system. We believe there are some extension principles to be formulated here that will strengthen education in all countries where they are applied. Extension education, however, in no way minimizes the importance of classroom education which we, in this country, consider as prerequisite. However, in the development of extension work we have found that there are out-of-school and beyond-the-classroom experiences to be had in the lives of young and old. Through participation in extension work encouragement is given to continued learning and, of great importance, learning is applied to doing one's daily work more effectively. As a result, those who take part in extension work are rewarded by being able to enjoy a better living and by realizing to the fullest the opportunities of democratic citizenship.

Science and Civilization

Out of the present world struggle we have learned more than ever before, that we are passing through an era when science and tradition are in basic conflict. The issue at stake is whether the blessings of science shall be employed for the benefit of a favored few, or whether they shall be employed for the human welfare of the masses of mankind. Scientific method, if controlled by the proper philosophy, possesses limitless possibilities for good. Conversely, as illustrated by the sadism of the forces we are now fighting, scientific method can bring out the most savage instinct in the human race.

Scientific knowledge, which is the product of what the philosophers term scientific methods in logic and analysis, is universal. It is based on the assumption of the uniformity of nature and the predictability of things in terms of scientific knowledge. It is, therefore, wholly impersonal and knows no geography or group of people. If scientific knowledge is directed and controlled by certain philosophic and religious views with reference to the ultimate purposes and values in life, we believe it to be a great blessing to mankind. On the other hand, if proper ethical goals and values do not control science, it can be a terrifically powerful instrument for destruction and human misery. From the point of view of the cultural anthropologist, all human cultures have a scientific sector. No matter how primitive cultures may be from our standards, man has always sought to exercise in some manner some control over his environment, his needs and desires.

The history of science, like the history of any other aspect of man, is one which has taken a zigzag course. Scientific knowledge has, in the past 150 years or so, expanded at a rapid pace in relation to other ideas held by man. Historians, who are concerned with the whole human race and with the philosophies of history, agree that just now man is in the process of great cultural change whereby scientific knowledge and its application are pushing out prescientific folklore and the folkways that go with it. This world-wide growth of science is unifying mankind and changing all his patterns of culture at an incredible rate. We are apt to think of such things as today's airplanes, automobiles, radar, the sulfa drugs, and penicillin as examples of the rapid march of science. They are in reality but symbols or road signs that point in the direction in which we are traveling.

In the field of agriculture, where man exerts control over the forces of nature and directs them in the production of food and fiber, scientific advances have been as rapid as in any field.

Genetics and Agriculture

Much of the great advance in the application of the natural sciences to agricultural knowledge has been made during the past 50 years. By way of illustration, the development of genetics is opening a great vista to where the geneticist becomes a sort of architect of plants and animals. By combining the known characteristics of germ plasma and adapting variations in characteristics to fit climate, soils, and resistance to disease, man, within the limits of his knowledge, is able to increase production, develop agriculture where it has not previously succeeded, and contribute a greater abundance of basic food values.

Thus far, the science of genetics in relation to plants and animals has made a relatively small beginning. When peace comes and we witness an expansion in the sciences and education, we may expect, perhaps 50 years from now, that domestic plants and animals will have been developed to fit every known local environment of man.

Advances in the fields of soil science and soil conservation have been equally startling. Although in these fields scientific knowledge often verifies practices farmers have developed out of the hard school of experience and used for centuries, the fact remains that the productivity of the soil not only can be maintained but, in many ways, can also be greatly improved through scientific knowledge.

In the field of plant and animal diseases and pest control, the advances of knowledge parallel the developments that have taken place in the field of human health. Bovine tuberculosis and Bang's disease are, by way of illustrations, in process of being brought completely under control. The tolls of the bacterial and virus diseases and insect damage on plants and animals are tremendous. Nothing could be done about these in the prescientific era. Engineering as applied to agriculture is just as revolutionary as it is when applied to manufacturing and transportation. Farm mechanization, in which the United States has made outstanding progress, not only lifts great drudgery from the backs of farmers, but increases the productivity of crops because of timeliness and the more effective manner in which things can be done.

Significance of Social Science

The scientific revolution in relation to agriculture is by no means confined to the natural sciences. It is going on in the field of the social sciences as well. Everywhere throughout the world, before the outbreak of the war, improvements were going on in the fields of marketing, farm management, land tenure, cooperative organization, recreation, rural schools and education.

The word "extension" was coined late in the last century to represent the concept of extending the scientific knowledge available at some of our land-grant colleges and universities to farmers and their families on the land. When the Smith-Lever Act became law in 1914, extension was applied to all work in agriculture and home economics carried on cooperatively by the Federal Department of Agriculture and the State land-grant colleges. Our extension system recognizes

that, before there can be extension work in scientific agriculture, there must be a system of research whose scientific findings are to be applied. Research in the field of scientific agriculture requires more and more training and specialization. The standards of research workers in the State experiment stations and in the Department of Agriculture have been raised to such a degree that now the specialized training for the degree of doctor of science or of philosophy is almost a prerequisite for the research profession.

Science, Extension, and Farmers

Since farming throughout the world is primarily a family enterprise, changes in methods lie with the individual farmer, rather than with a board of management as in the case of the corporate form of industry. Extension work in agriculture and home economics is, therefore, a part of the present world-wide tendency for man to change from the prescientific to the scientific age in the field of agriculture and rural welfare.

In the United States, through our system of agricultural education, extension work is recognized to be on a par with college instruction in scientific agriculture and investigation and research. Our system cannot be understood without an appreciation of the fundamental unity of these three lines of activity.

Our total expenditures for cooperative extension work as such now approximate \$36,500,000 annually, and about 9,100 professional people are employed, the majority of them resident county agents. Their work is not confined to our 6½ million farm families, but includes millions of nonfarmer inhabitants in rural areas.

Scientific Method in Education

Since extension work is largely an educational process, we believe that scientific method and scientific research, when applied to the educational field, can contribute as much here as when applied to sciences such as biology, or to practical fields such as animal husbandry.

The basic social sciences, which bear the same relation to the educational process as chemistry and physiology bear to farm crops and animals, consist first of the sciences dealing with culture and the behavior and interaction of individuals and groups within their culture. Involved are the various special fields in psychology, in cultural anthropology, and in sociology. Though we by no means know all that is to be learned about the processes through which ideas change, we know something about them. What we do know serves as a basis for scientific educational methods in extension work.

Extension Grows From Within a People

Scientific workers in this field are in general agreement that, under the present limitations of knowledge of culture and cultural development, one culture cannot be forced upon another. Development has to take place from within and cannot be forced from without.

This point of view was beginning to influence social scientists in agriculture before the outbreak of the war. The International Congress of Agricultural Economists, a nongovernmental organization, has done much toward bringing about common understandings and

a world view with reference to the social and economic forces in world agriculture. At the fifth and last international conference, held at Macdonald College in Canada in 1938, the founder and president, Mr. Leonard K. Elmhirst, in his opening address said:

Social anthropologists and others have begun to point out how wide a variety of social patterns exists in the world and how all these patterns tend to remain stable so long as their basic economic structure remains undisturbed. If this economic base is too suddenly or too drastically upset, the social pattern suffers all kinds of psychological stresses and strains because it still rests upon so many uncharted instincts and taboos, unconscious and subconscious emotions which delay and even prevent that free interplay of feeling and intellect that marks the study of economic forces and pattern. The sudden economic changes of the postwar era have left behind a legacy of psychosocial damage which it may take years of research and education to repair. In the main, in rural areas we are to-day dealing with such a condition, since age-long unquestioned patterns of village and rural society are having to face the coming of the machine and the pull of the great city.¹

The great cultures of mankind in Asia and Africa, as they evolve with relation to scientific agriculture, must develop their extension work in ways quite indigenous with them. We in the United States Department of Agriculture, and in our State land-grant colleges, would be the first to agree that our form of organization of extension work and our methods are the product of our culture. The first lesson to be learned about them is just that. Therefore, in extending scientific knowledge to farmers through the world, each culture, each nation, and each group will have to develop its own forms of organization and methods out of its own cultural background. We believe, however, that basic principles apply everywhere, and that studies and observations of the development of extension practices and methods throughout the world will be of value and stimulating to all people.

Guide for the Future

In the years to come, there will no doubt be frequent international congresses dealing with agricultural education and extension methods and their world application, as in the past there have been many scientific congresses bringing together agricultural scientists from all over the world. I have spoken primarily about scientific agriculture. But scientific agriculture is only one aspect of the problem of rural life or of the total culture of particular peoples. From the scientific point of view, these aspects are all related, and what goes on in one sector affects the other sectors of the whole. Many problems of the relationship of agriculture to the total culture cannot be discussed at this Conference. However, we believe the democratic way of life is the only way of life that gives an opportunity for full expression of the individual and for meaningful spiritual and moral development. Extension work can be organized and carried on so as not only to be consistent with the democratic pattern of culture but to become a powerful educational instrument in the development of a democratic world society.

If the peace of tomorrow is to open a world composed of people who enjoy greater freedom, then the masses of people must learn to exercise the responsibilities that go with freedom. In an age when science has revolutionized the world, extension work and education in the broader sense become the chief pillar of world freedom.

¹ ELMHIRST, L. K. OPENING ADDRESS. *In* Internat. Conf. Agr. Econ. Proc. 5, pp. [20]-26. 1938. (See pp. 21-22.)

Committee Reports

The Balkans

The Region and Its Rural Inheritance

THE BALKANS comprise six countries—Hungary, Rumania, Yugoslavia, Bulgaria, Greece, and Albania—with a total area a third larger than Texas and a population of about 58 million. Over two-thirds of this total consists of agricultural people living in small villages and tilling, on the average, about 12 acres of land in small, scattered strips. Hungary is an exception, since the prevailing system of tenure is that of the latifundia, or large estates. Remains of a similar feudal structure exist in parts of Rumania and Albania. In all Balkan countries the pressure of population on the land is great. Paradoxically, extensive farming, stressing the production of wheat and corn, and seminomadic herding of sheep and goats prevail rather than intensive agriculture, which would use the large labor supply more effectively.

Individual holdings in the Balkans, whether owned or operated on a tenant basis, seldom exceed 10 acres. All too frequently the custom of bequeathing land evenly to all the sons has resulted in the farming of small, scattered strips sometimes several miles apart.

The Balkan peasants, proud of their rural heritage, constitute nearly 70 percent of the total population. The term "farm," as used in the United States, has no equivalent in the Balkan countries. The peasant's farm consists, as already mentioned, of several strips of land that may be far apart. He generally lives in a village commune, about which his holdings are distributed. Frequently he lives in cities and large towns, going out daily to work in his fields. In either case he has to travel some distance from his home to his fields, or from field to field, or to the pasture where his livestock is kept. Pastures are usually communal property; when fenced they are privately owned or belong to large estates.

General Physical Features

A large part of the surface of the Balkan countries consists of mountains, and the major part of this mountainous area is rocky and unproductive.

Because of this, and because rainfall usually comes in torrents and the soils are of fine texture, much erosion and gullying take place on the agricultural land.

As a result of centuries of cultivation with no improvement practices to maintain the supply of plant food, Balkan soils have become low in fertility. In both nitrogen and phosphorus content they rank

from medium to very poor. Most of the soils, however, are well supplied with calcium, potassium, and magnesium.

Agriculture

Despite the number of countries involved and their cultural differences, the Balkan agricultural pattern is remarkably homogeneous. Throughout the region, methods of farming are relatively primitive and yields and farm incomes are low.

Agricultural practices are the outgrowth of centuries of trial and error, and, although adapted to make the best of an adverse situation, have profited little, if any, from important developments in agricultural sciences and technology during recent years. Seedbed preparation can be substantially improved, though soil and climate are fearsome obstacles.

The narrow wooden plow with steel point is the prevailing type used. Steel plows are not always superior to the native kind under present conditions where small oxen are used and soils are heavy and sometimes stony. Government efforts to establish wider use of modern implements have failed because all the various factors relating to the use of new implements have not been recognized and the distributive organization has been disconnected and lacking in competent personnel. •

The standard of living in all the Balkan countries is low. Housing conditions where building material is plentiful are good, and peasant cottages sometimes consist of three or four rooms, often with wide balconies covered with vines. However, in certain sections where building materials are lacking, houses are built of mud and consist of one room and kitchen only.

Much can be done to improve the diet of the rural population. In some places food is actually lacking; in others badly balanced, or, if abundant and varied, poorly prepared, and temporary surpluses are not preserved for future use. Similarly, sanitation, health, and home living conditions could be greatly improved.

On the average, the Balkan farmer operates on a subsistence basis. Only small beginnings of a shift to a cash economy are evident. Statistics on cash income are meager, but surveys conducted on a limited scale by the Near East Foundation indicate for Albania an average cash farm income of \$30 a year. In other countries the cash income ranges from \$40 to \$100. The farmer sells his produce through local cooperatives, at weekly bazaars in provincial towns, or to traveling buyers and commission merchants. The value of goods is based on the demand and supply of the goods available on a particular day. Local cooperatives often serve as agencies for personal loans and also provide the community with grain threshers, flour mills, and other agricultural implements. Marketing and grading of surplus agricultural products is limited. A large percentage of the products are bought directly by traveling buyers and commission merchants. The Balkan farmer does not study market conditions and produce accordingly, but grows what he wants and disposes of his surplus. The average peasant is in debt about \$265, or the equivalent of several years' cash income.

Because of wartime conditions, many peasants have been forced to grow crops they might not have taken up otherwise; they have enjoyed relatively high prices, but have found only small amounts

of consumer goods available. The Government for a number of years has legislated in favor of the farmer (moratorium on debts, export subsidies, etc.), but rural taxes remain high. The farmer is beginning to realize that his economy is related to world economy, but finds it difficult to adjust to rapidly changing world conditions. What few consumer goods he must have are obtained from traveling buyers in exchange for farm products, or at the weekly bazaar where he may spend all day and transact the equivalent of 1 or 2 dollars' worth of business.

In many sections of Greece the centuries-old closed economy prevails.

Place of the Family in Rural Life

Although the old joint-family system in the Balkans has been superseded by the individual family, the influence of kinspeople is still great. The family is the center of village life; it is the basic producing and consuming unit, the area for child training, and the carrier of religious beliefs, ceremonies, and traditions.

The low living standard has impelled cohesiveness, and the resultant primary loyalty to members of the family is a deep-rooted certainty which has significant bearing on the success of any national programs for economic improvement. Balkan tradition places complete authority in the head of the family. Matchmaking in rural areas is often the function of an intermediary, and frequently a husband and wife do not know each other before marriage.

Characteristics of the Rural People

The peasantry of the region is hardworking, frugal, able and willing to learn, and friendly to all who come with sympathetic understanding of their problems. The conservatism of the Balkan peasant does not stem entirely from rigid adherence to tradition, but is partly explained by his meager resources. It is therefore an asset rather than a liability to the rural worker who, in cooperation with the local people, develops a sound program which fits local conditions.

Community Life

As a result of the long Ottoman rule, the Balkan people, especially the peasant class, developed a strong community spirit which has persisted to the present day. All farmer activities, whether economical, religious, political, or recreational in nature, are centered about the village community. Every community event is shared by all the dwellers of that community. The community has become in many respects a big family in itself. The local mayor, the teacher, and the priest are the leading personalities and influence greatly the attitudes and behavior of the people toward the outside world. Western ideas of the role of government have been transplanted to the village in the person of the mayor, who is apt to be a town rather than a rural person. The mayor represents the national state. Coffee houses are the public discussion centers. Bazaars, which serve as centers for exchanging goods, also serve as centers for acquaintance and exchange of thought.

In Greece, Bulgaria, and parts of Yugoslavia and Rumania the people are Orthodox. The priest in these countries is a person of considerable influence, since all the people of his village are auto-

matically members of his parish and adherents of the eastern Orthodox Church. This is a state church which in the days of subjection to the Turks did much to keep the feeling of nationality alive. In some parts of Yugoslavia and in Hungary the people are predominantly Roman Catholic. Albania is Moslem and so are parts of Yugoslavia and Bulgaria.

Men's recreation centers are in the village taverns, women's in working bees, and young people's in informal group gatherings, but seldom in couples.

Main Agricultural and Rural-Health Problems

In few other parts of the world could a soundly developed and operated extension system produce more fruitful results in raising the standard of living than in the Balkans. An over-all view of rural problems reveals certain major ones common to the six countries.

1. Farm practices:

- a. Small holdings and large rural population result in tremendous pressure on the land.
- b. Soil is poorly prepared (good machinery and implements are lacking; manures are not used properly).
- c. Little attention is paid to seed selection.
- d. Crop rotation is inefficient, and there are too few cover crops; overgrazing is common.
- e. Products are not easily standardized for sale abroad with the exception of a few, such as tobacco and grapes.
- f. Care of livestock is primitive in respect to shelter, feeding, breeding.
- g. Use of labor is inefficient; labor force is large, but farming is extensive rather than intensive and specialized.
- h. People sell many of the farm products (milk, eggs, etc.) they should consume at home.
- i. Implements of the proper kind to work the land are insufficient.
- j. Storage facilities and proper means of transportation are lacking. Many perishable crops spoil before they reach the market.
- k. Credit facilities are inadequate.

2. Home and health practices:

- a. Housing is overcrowded, especially as to sleeping accommodations.
- b. Diet is monotonous and unbalanced in winter; food is poorly prepared.
- c. Little personal hygiene is practiced (no care of the teeth, infrequent washing of hands before eating, etc.).
- d. A common drinking cup or glass is used and food is eaten from a common dish. Utensils are not washed in boiling water.
- e. Little prenatal and postnatal care is given; high infant, child, and maternal mortality occurs.
- f. Sanitation is undeveloped—no fly control, contaminated drinking water, insanitary slaughtering of meat, and little use of sanitary privies.
- g. Malaria incidence is high.
- h. Little immunization is practiced except at times of epidemics.
- i. Clothing, especially of infants and children, is unsuited to seasons; standards are low.

The Foundation for Extension Work in the Balkans

Local Culture

The most common way of introducing change in the Balkans at present is by decree. The mayor writes out a decree, posts it conspicuously, and has the town crier announce it in the tavern and in the chief village square. Then local officials see that the order is carried out, using police powers when that seems advisable. If an order meets too much popular resistance its observance goes by default.

School authorities interested in promoting patriotism, temperance, or constructive causes arrange evening entertainments in the school. Here some drama is given and numerous speeches are delivered. Then there is a social hour. In Bulgaria, The People's University, as it is called, consisting of seven or eight lectures given during the winter, is held at the school.

The traditional way of getting a practice approved, however, is through the support of some of the influential villagers—usually older representatives of kinship groups—by getting them to meet informally to discuss what needs to be done and to reach some sort of understanding. These men usually can swing public opinion to their point of view. Matters of interest primarily to women are best presented through the women most looked up to in their respective neighborhoods.

One approach, that of forming an organization to do a specific job, has not proved very successful. Cooperatives do well in some villages, especially where they are general-purpose cooperatives that buy from the peasant, sell to him, and lend him money. Other organizations, such as livestock insurance associations, seem to do well because peasants must belong to them before they can get loans on livestock from the agricultural banks. Other organizations are found in most of the Balkan villages, but they are kept alive by the handful of intelligentsia in the village who seldom enlist the support of many peasants. To elect representatives to parliament the peasants must join an agricultural *zadruga*, or farmers' corporation of the Fascist type.

Changes in Rural Life

The increased mobility of the people as a result of the war is making many of them more receptive to innovation. The Government is now forcing changes necessitated by the war, and many of these will become incorporated into the folkways of the people. Most of these changes, however, have to do with getting higher crop yields and the introduction of industrial plants. They do not deal specifically with better homemaking or the improvement of rural health. To some extent the government-sponsored schools, which have compulsory attendance for girls and boys 7 through 13 or 14 years of age, are an influence toward westernization. Nevertheless, their curriculum follows the conventional pattern of Western Europe and is little related to the everyday problems of village life.

The attitude toward education is conditioned by the need for the boy on the home farm and by a tendency to feel that what was good enough for grandfather will suffice for the present generation. Notable exceptions keep full to the limit of capacity the few agricultural educational facilities that exist. The biggest deterrent to secondary education is cost, which rural people simply cannot afford. Government scholarships too often go to more well-known city families.

Agricultural and Home Economics Education

Just before the war, progress was made in the establishment of agricultural schools in the Balkans. In Rumania, particularly, such schools were serving as a foundation for extension progress. Though the Rumanian set-up is not typical in detail of all the Balkan countries, it does indicate trends in the other Balkan nations.

Agricultural and homemaking education in Rumania is organized on three or four levels. In descending order these levels are:

1. *Higher education for young men and women sponsored by the academies of higher agricultural studies or by the universities.*—The object of higher education is to:

a. Prepare technicians and specialists for agricultural institutions, b. Teach personnel for secondary, primary, traveling, and popular education, c. Furnish the necessary preparation for the sons of large and middle-class landowners who intend to undertake the management of their holdings.

2. *Secondary education for boys and girls separately.*—The object of this training is to form an auxiliary personnel for agricultural holdings and for agricultural institutions. This personnel is employed for primary-school teaching and popular education and to serve masters (agriculture instructors) for primary education and supplementary teaching. The object of secondary domestic education is to prepare good housewives and teachers for primary domestic education.

3. *Primary education for boys in primary schools and for girls in schools of domestic economy.*—The object of agricultural primary education is to produce good managers for agricultural holdings or private services as well as capable personnel for agricultural institutions. The object of primary domestic education is to prepare good housewives. Special attention is given to the raising of domestic animals, beekeeping, and sericulture. In addition there are courses on such household arts as the preparation of preserves, weaving and sewing.

4. *In addition, agricultural knowledge is popularized through popular education:*

a. Schools of apprenticeship in agriculture function at state agricultural institutions, farms, and nurseries. Their object is the agricultural education necessary to the sons of farmers who do not possess means to follow a course in a school with a more extended program. They are directed by a teacher and assistant. The pupils carry out full-time practical work in the holding attached to the school. The duration of the course is from 2 to 3 years, according to region. The boys who pass through the course receive the certificate of a qualified workman.

b. Winter schools for boys aim, as do the schools of apprenticeship, to give the necessary preparation to the sons of cultivators who have not the means of following a more complete course. These students are admitted without distinction as to age. The course is one or two semesters and runs from October to March. The rest of the time the students do practical work in their fathers' holdings under the direction of the teacher. These schools provide limited instruction in a few of the essential subjects. The state maintains 21 winter schools and the chambers of agriculture also have organized schools, which vary in number according to area.

c. Instruction is given by teachers who move from place to place and by instructors employed by the state. The program is fixed for each region by the minister of agriculture. Instruction comprises periodical courses, lectures, visits, demonstrations, consultations, dissemination of agricultural knowledge by means of publications, competitions, excursions, films, and radio.

The Committee calls particular attention to one serious difficulty encountered in the training of rural youth in the Balkans. A large majority of youth going into agricultural schools go there not with the intention of returning to their farms or engaging in agricultural production, but to become government officials and live as scribes. The agricultural service is thus characterized by bureaucratic spirit and concentration on paper work, while on the other hand, farming largely continues to be carried on in the traditional way. The people have a proverb for this, "Build your cottage as your father did it."

However, social and economic conditions explain this. Farms are mostly so small and farming is so unprofitable that investment in schooling simply does not pay. The only possible way a youth has of paying for school expenses at a future date is to go into government service.

Established Research and Cooperative Institutions

In addition to the schools first described, cooperative, research, and control activities are carried on all over the Balkans by a series of strongly developed institutions specializing in particular fields. The most important of these are:

1. *Bulgaria*.—The Bulgarian Agriculture Society, founded in 1895, has concerned itself throughout the years with extension problems. The Institute for Plant Protection and the Agricultural Economics Institute, both directed by professors of the agriculture faculty of the University of Sofia, are supposed to have field men to help with extension, but in reality these men are primarily concerned with research.

Bulgaria has 3 important agricultural research institutes, 14 experiment stations, 8 experimental farms, and a number of smaller animal-husbandry breeding centers. The research institutes are the Agriculture Economic Research Institute, the Plant Protection Institute, and the Animal Husbandry Institute, all located in or near Sofia. The central experimental station and the central poultry experiment station are likewise located near Sofia. Other stations are at Plovdiv (vegetable growing), Ruse (crops and livestock), Sadovo (cereals), Pleven (vineyarding and winemaking), Vratsa (sericulture), Drenovo (orcharding), Kyustendil (horticulture), Cirpan (grain and cotton), Kneza (crop and animal), Kozarsko (tobacco), Clementina and Kabayuk (animal husbandry).

The total personnel for work in these institutes, experiment stations, and farms is 277, not all of whom are professional.

The degree to which farmers visit these stations and farms varies with the place. Considerable use has been made of the central poultry experimental station in this connection. Government-owned experimental farms play an important role because the private Bulgarian farm is so small that the farmer owner cannot afford to experiment without subsidy. The Drenovo station has been active in the distribution of fruit trees throughout northern Bulgaria. Little use is made of the stations for class work among the farmers. As a rule, the director of each station has so much local autonomy that he does not try to fit the work of his station in with the extension program or the surrounding area. There are some notable exceptions to this, however.

2. *Greece*.—Before the war there were the following experiment stations:

- a. Plant Improvement Institute of Thessalonike.
- b. Nursery for the production of phylloxera-resistant stock.
- c. Laboratory of sericulture.
- d. Soil laboratory of the Ministry of Agriculture.
- e. Research laboratory for the preservation and storage of fruits.
- f. Tobacco Institute of Drama.
- g. Cotton Institute of Thessalonike, with substations.
- h. Raisin Institute of Pyrgos.
- i. Vine Institute.
- j. Institute of Plant Pathology.
- k. Kanellopoulos Institute.

The most important station is probably the Plant Improvement Institute, a small-grain station. This institute has worked efficiently with the Greek farmer and has been able to increase his income. Both the institute and its staff have enjoyed considerable prestige among the peasantry as a result of the successful work developed cooperatively. Its director, Papadakis, will long be remembered by the Greek peasants.

The Cotton Institute too has enjoyed great reputation in working with farmers. New varieties of cotton have been developed, and Greek cotton production has improved qualitatively and quantitatively.

Special mention should be made here of the American Farm School at Thessalonike. This institution has been one of the forerunners in developing practical farmers and in introducing purebred livestock and improved varieties of seed. It has been the only source for providing foundation stock to the newly established livestock experiment stations.

The Hellenic Agricultural Society was founded in 1901 for the purpose of developing agriculture and improving technical services. Local societies have been formed throughout the country for educational purposes, though the number of peasant members has not been large. Chemical fertilizers, copper sulphate, and other spray materials have been introduced and demonstrated by the society, and some improved livestock has been imported and distributed. Regional contests have been held for both crops and livestock, and prizes given to the winners. A large number of agricultural pamphlets of a popular type have been written and distributed at cost to the farmers.

Some of the experiment stations, especially the Institute of Plant Improvement and the Cotton Institute, have published four- to six-page pamphlets of a popular type and distributed them to farmers. The Ministry of Agriculture has issued publications dealing chiefly with research work of a technical nature. These have been available to staff members.

3. *Hungary*.—There are 17 special scientific and experimental institutions in Hungary, 15 of which are distinctly agricultural, under the control of the Minister of Agriculture.

a. The Hungarian Geological Institute at Budapest. b. Meteorological and Terrestrial Magnetism Institute at Budapest. c. Hungarian Agricultural Museum at Budapest. d. Hungarian Experimental Chemistry Station at Debrecen, Keszthely, and Magyaróvár. e. Hungarian station for the examination of seeds, at Budapest, Debrecen, and Keszthely. f. Hungarian station for experimental mechanics at Magyaróvár. g. Hungarian experimental station for the production of plants, at Magyaróvár. h. Hungarian experimental station for tobacco growing, at Debrecen (with branch at Békéscsaba). i. Hungarian experimental station for animal biology and fodder at Budapest. j. Hungarian experimental station for investigations connected with the production of milk, at Magyaróvár. k. National Hungarian Wool-Testing Institute at Budapest. l. Hungarian entomological station at Budapest. m. Hungarian station for phytology and vegetable pathology, at Magyaróvár. n. Hungarian Bacteriological Institute at Budapest. o. Hungarian spirit-testing station at Budapest. p. Central Hungarian Station of Viticulture and Ampelographic Institute at Budapest. q. Central Hungarian station for experimental forestry.

Besides the institutions for technical instruction, Hungary has numerous institutions whose aim is to cooperate actively in the dissemination of agricultural information. The most important role is played by the farmers' protective associations, which may be traced back to

early Hungarian history. A more intensive development started only a little more than 100 years ago, with the establishment of the National Hungarian Agricultural Union in 1835. It looks after the material interest of farmers, and helps to bring about farm improvement.

As a result of its propaganda the Hangya (Ant) Cooperative Society in 1916 placed a considerable sum of money at the disposal of the Ministry of Public Instruction for the purpose of founding a University of Political Economy in Budapest, which in 1920 became one of the faculties of the agriculture profession.

The official protection of agricultural interests was realized only in 1920 with the establishment of the Chamber of Agriculture. The duty of this chamber is to assist the Government and the agriculture administration in the development of agriculture and to promote the interests of agriculture, landowners, and agricultural workers. Therefore, its duty is to study all the phenomena connected with agricultural production, and the agricultural population and its welfare. It may propose social, cultural, governmental, or legislative measures, and in its own sphere of activity may also establish and maintain institutions for the correct organization of production and for successful farming in general.

Work by smaller and more specific protective associations may also be observed in the various branches of agricultural production and the promotion of the moral and material interests of the agricultural population. Other promoters of enlightenment are the rural people's libraries. Farmers' unions and associations, if considered worthy, are presented by the Ministry of Agriculture with a collection of books on agriculture and a suitable chest or case to hold them. The material of these libraries covers the latest discoveries in farming techniques, thus making it convenient for the agricultural population to keep their knowledge up to date.

The Royal Hungarian Institute of Hygiene, founded in 1927 with the support of the Rockefeller Foundation, is entrusted with the work of health protection in general in the rural districts of Hungary. The institute, with its 11 branches throughout the country, carries out the bacteriological and serological tests that implement the work of health protection. The work of health protection in rural districts is carried on through the Green Cross, a service under the supervision of the Hungarian Public Health Institute. In each sector the work is directed by a doctor, and a woman assistant visits the families and makes the necessary inquiries. About 700 communities are included in the 300 organized sectors, which have a total population of 1 million. The work is done through health centers, many of which have been built, and the number is being continually increased. However, progress is impeded by the shortage of properly trained assistants. The system of health-protection services is expected soon to cover the entire country.

In addition to the work of the Green Cross, the health of the rural population is looked after by the Stephanie Federation, founded in 1915 for mothers and infants. This organization has over 327 dispensaries, 150 day shelters, and 4 children's hospitals, with 609 doctors and 744 assistants. Activities are carried on by the federation in 472 communities, and the number is continually increasing. In places where the Federation has no dispensary, the Green Cross looks after the welfare of mothers and children. When the two organizations work

together, the Green Cross attends to matters other than the welfare of mothers and children.

4. *Rumania*.—To popularize agriculture, the Ministry of Agriculture and the Society of Agricultural Engineers annually organize a lecture series bearing on agriculture, for broadcasting over the radio. In addition, lectures are given, accompanied by films. Agriculture and zootechnic expositions are held in the larger centers from time to time, in an endeavor to improve the Rumanian peasant's lot.

5. *Yugoslavia*.—Educational, research, and control activities are carried on by a series of government institutions all over the country specializing in particular fields. The most important are:

a. Agricultural experiment and control stations at: Topcider (wheat and barley); Ljubljana (wheat and barley); Zagreb (corn, forage crops); Novi Sad, Split, Skoplje (poppy, rice, hard wheat); Sarajevo, Gorazda (fruits); Bar ("southern" crops); Bukovo.

b. Institute for the Examination of Farm Machinery and Equipment at Belgrade, an office of the Ministry of Agriculture, investigates and passes upon every type of agricultural machinery and implements entering trade in Yugoslavia.

c. Institute for Wool Research at Belgrade.

d. Institutes of Fisheries at Belgrade and Varazdin; and the Oceanographic Institute at Split.

e. Several cattle, horse, and sheep selection stations all over the country.

f. Veterinary and bacteriological institutes at Belgrade, Ljubljana, and Krizevci.

g. Veterinary Experimental Institute at the University of Zagreb, which also produces and sells certain serums.

h. Dairy Institute at Skofja Loka in Slovenia.

The experiment stations concentrate on selection rather than on breeding work. Many of the aforementioned organizations are rather new and still were troubled with problems of infancy when the invasion came.

The farms of advanced farmers are often designated as "centers," where improved methods of work are conducted with advice and supervision of the county agents. In the field of sheep raising there were about 220 such centers in 1939.

To circumvent the lack of funds for research in special fields, especially in industrial crops (sugar beet, cotton, silk), producers have to pay a special tax into a fund of the Ministry of Agriculture. The proceeds with some donations from the ministry were used for research and control measures in these respective fields. Similar measures applied to animal-husbandry improvement and control.

To direct, supervise, and coordinate agricultural research, a central advisory board on agricultural research and experiment stations was established in the Ministry of Agriculture in December 1938. This board worked through special commissions and working parties.

Some educational work in agricultural and home economics matters, consisting of established city school and of traveling courses, was organized by the Ministry of Public Health and its schools of public health and institutes of hygiene.

A much-publicized and interesting institution established by the Yugoslavs in the inter-war period and performing, or intended to perform, part of the extension work, is the health commune, reorganized by the law on health communes of 1930. The rural health co-operative societies, supported by the Government, were also reorganized by this law. The program of these societies is comprehensive. Their authorization states that they may undertake sanitation works

in the places where their headquarters are situated and in the territorial areas for which they are responsible; construct, improve, or repair works for drinking-water supplies (catchment of springs, water mains, wells, cisterns); drain marshes to stamp out malaria; carry out drainage works, regularize streams and ponds; clean up and improve infested dwellings and villages; build and repair byres and pigsties; construct manure pits, sewers, water-closets, etc.; erect hospitals on a cooperative basis, health stations, public baths, dispensaries, etc.

The chief problem in carrying out these educational programs was the lack of funds and facilities in relation to the task at hand, and the lack of incentive for graduates to go back to the farm.

In Yugoslavia the health cooperative has reached a high state of development. Health zadrugas (family communities) were organized with the initial help of a foreign relief and rehabilitation agency, the overseas Commission of the Serbian Child Welfare Association of America, which was followed by the establishment of the Federation of Health Cooperatives in 1922. This federation is now a branch of the huge cooperative body of Yugoslavia, integrated into the Main Cooperative Federation, embodying about 7 million out of the total 12 million of the farming population of the country, by far the most powerful organization of men and women in the nation. Out of the total of 336 counties (srez) of Yugoslavia, 134 were in 1941 covered by health cooperatives distributed in all parts of the country.

Monthly classes were held in the health zadruga, in personal hygiene, home sanitation, prenatal and postnatal clinics, and general public-health and educational subjects. A public-health nurse, when available, gave in addition to her other duties, regular health lessons in the local elementary school, making use of posters and other literature on the subject supplied by the Federation of Health Cooperatives in Belgrade.

One of the most important features of the health cooperative program was the service of the visiting nurse in the homes of patients. The nurse attached to the zadruga at Slovatz accomplished outstanding health educational service while visiting patients in their homes, stopping on the way in other homes as well.

In cooperation with local school authorities, cooperative doctors and nurses carried on periodic health examination of school children. They visited the schools, examined the children, weighed and measured them, and referred to the health center children requiring further examination and treatment for physical defects. In the index cards of the cooperative at Slovatz complete data with reference to this service were to be found on the card of each family whose children attended the local school.

Training girls and young women in homemaking is an important part of the program of health cooperatives. Practical application of standards of home hygiene and sanitary living proved to be a serious need and in great demand. Accordingly, from 20 to 25 peasant girls over 16 years of age were gathered into home-school groups and given a short course in cooking, housekeeping, sewing and dressmaking, preserving and conserving food, personal hygiene, and home sanitation. The illiterate girls were taught to read and write.

Prewar Organization of Extension Work

Every Balkan country has an operating extension system with outstanding achievements to its credit. These achievements, however, are usually local in character and lack widespread application. Much, therefore, remains to be done in the field of extension work.

Albania.—Prior to the middle 1930's, when a relatively liberal cabinet assumed responsibility for a brief period, extension in Albania was chiefly of a regulatory nature. Agricultural agents in the prefectures attended to farm problems from their offices if the farmers chose to call on them. Lacking a sufficiently long period of stable government (Turkish rule ended in 1912, but a president was not elected until 1924; he became king in 1928), and having only agents with an urban background and inadequate training, the development of educational extension was scarcely possible. The "new deal" about 1936 gave younger men in the Ministries of National Economy and Education, who had traveled or studied abroad, an opportunity to make a beginning in a service-type program. Political reaction came shortly, but the newer conception of extension was not abandoned.

The extension system previous to the Italian occupation involved assignment of agricultural agents to each of the political subdivisions within the subprefecture. These are supervised by directors of agriculture in the subprefecture, and in turn in the prefecture. All appointments are made by the directorate of agriculture in the Ministry of National Economy, which also has responsibility for supervision. In 1939 only a small number of the agricultural agents foreseen in the plan were actually appointed. Also, a veterinary system, supervised by the animal husbandry section of the ministry, maintains an operation more or less separate from the directorate of agriculture.

Functions of the agents, in addition to their enforcement duties, included distribution of seed and farm machinery and the encouragement of fruit-tree propagation. Efforts were made to stimulate vegetable production, but results were limited by the absence of an accompanying home demonstration program to promote effective utilization. Campaigns were frequently used to encourage changes in practices.

Animal-husbandry emphasis was on meat inspection, vaccination, and epidemic control. A few livestock shows or fairs called attention to the urgent need for better breeding and management. Beginnings of a program were under way in 1939.

Bulgaria.—In 1940, the annual budget for Bulgaria was 8,461,754,000 leva (slightly over \$100,000,000). The amount devoted to agriculture was 576,410,000 leva (almost \$7,000,000). Of this, extension work received 98,121,800 leva, or 17 percent. This included the cost of offices, equipment, and personnel of the agronomy, livestock, and the veterinary services.

1. *Personnel.*—In the central office are one chief and one chief inspector from the agricultural economics division, charged, among other things, with responsibility for extension work. There is no director of extension for the country.

Each of the seven provinces has a director of agriculture, who is also director of extension. He has an associate for animal husbandry and an assistant for horticulture as well as specialists in plant protection and in homemaking. In the provincial capital, also, are an in-

spector of agriculture schools, a chief veterinarian, and an inspector-instructor who is a veterinarian.

In the Bulgarian county, which compares roughly in size with the average American county, are to be found an agronome in charge; an administrator or chief clerk, who attends to reports and keeps posted on the laws; a clerk-accountant; and a combination janitor and carriage driver. Fifty-one counties also have an assistant agronome. In addition to these people, each county has a livestock-control assistant, perhaps a stock technician of some sort, a veterinarian, an assistant veterinarian, a clerk-accountant, and a helper for disinfecting.

The county agronome and his staff serve 60 villages on the average. Because of their small size, the farms number more than 10,000 in each county. The assistant agronomes and assistant veterinarians usually live in a principal village and do extension work within a radius of about 7 miles, or an area including two or three other villages.

Other extension personnel includes persons in charge of the agricultural continuation schools, which are held during the late-fall and winter months. The principal is a graduate of the agricultural faculty of the university; his assistant has at least a secondary-school education; and the homemaking teacher is a graduate of one of the two homemaking normal schools in the country.

Every rural municipality, which usually consists of three or four villages, has a municipal doctor who is supposed to work with other officials in the program of village improvement.

2. *How the whole system functions.*—Nominally under the control of the ministry itself, each regional director has a definite annual program and a less definite long-time program for his region. These are developed at an annual conference of the county agents and the regional staff. Similarly, each county prepares a county program at a conference of all county personnel, including the staff of the agriculture schools. Occasionally a national conference is called.

Supervision from the central office is irregular and infrequent, owing to lack of funds and preoccupation of personnel with other duties there. The regional staff spends considerable time supervising the counties. The county agent travels in a two-horse carriage, the local man on foot. Methods consist chiefly of lectures, and of regulations to be enforced by local mayors, tax collectors, cooperatives, etc. The demonstration method is new and not widely practiced; project work (similar to 4-H Club work and Future Farmer work) is carried on in the vicinity of the 300 agricultural continuation schools with pupils and graduates.

Greece.—The Ministry of Agriculture in Greece had before the war a rather well-developed extension service, including regional branches for Macedonia, Thrace, Epirus, Thessaly, Crete, and other regions; and county extension agents for each of the 37 prefectures (counties). Unfortunately, in addition to the lack of practical training in extension work and education for peasant farmers, there have been several other handicaps to carrying out the extension program.

The county agent has had a great deal of administrative work in connection with refugee and resettlement programs, loans to farmers, and regulatory work which have combined to keep him in his office during a major part of his working schedule. Means and funds for transportation have also been insufficient and have made traveling

difficult. Many county agents have had as many as a hundred rural communities to cover and hence have been unable to visit them all, even once a season.

Before 1912 few agricultural specialists were attached to the newly created Ministry of Agriculture. Many of the directors and heads of departments were lawyers who knew little about agricultural practices in Greece. Few of the agriculturists, who had their training abroad, were kept at the center and these conducted their work by correspondence through the prefectures. With the establishment of the Superior School of Agriculture, more personnel was available. Since 1922 every one of the 37 prefectures in Greece has had an extension agent with a few assistants, the number depending on the size of the prefecture.

Hungary.—The Ministry of Agriculture maintains a large staff of traveling agricultural agents who visit the agricultural centers periodically to assist local agricultural agents in their work among the farmers.

The basic law covering the aspects of extension work is the one on the organization of the agricultural service of 1929. According to this rather comprehensive law, the field service of the Ministry of Agriculture consisted of an expert agricultural official (called “ekonom” or “agricultural referent”) in each of the 380-odd counties of the country, which were the basic administrative organs of the central Government directed and supervised by nine regional administrative units called *banovinas* (provinces). Some of these county agents served two or more counties. The same applied to veterinary referents, whose functions were regulated by a law for veterinary service.

Some control functions relating to agriculture were performed by regional agricultural experiment and control stations, especially those requiring testing (laboratory or field).

The number of agricultural county agents was about 350 in 1938, and of county veterinary doctors somewhat less. The aim, however, was to have an agricultural and a veterinary agent in every county.

Suggestions for More Effective Extension Work in the Balkans

The Problem

By the term “extension” we mean the informal education that makes scientific knowledge available to the people who live on the land and usable by them.

Extension, as just defined, differs from the prevailing agricultural services authorized by legislation in most Balkan countries in that it is an educational process and does not include the regulatory features, which are mandatory.

As the introductory statements in this report have shown, some form of extension work is being carried on in each Balkan country, most of it under governmental auspices and some of it through cooperatives and other organizations.

Because of the increasing population pressure and the penetration of western civilization, the traditional folk practices are slowly changing. The role of extension in this area, therefore, is to accelerate and facilitate this change when desired by the people themselves, by bring-

ing to them the best knowledge of science in ways that are practical and acceptable.

In all the activities described, the end product desired is a better living for the rural population.

Setting Up the Program

In setting up an extension program, the workers should be led to explore existing conditions so as to become familiar with the needs and problems of the area. They should know the nature and functions of area organizations already functioning.

All agencies directly or indirectly involved in the welfare of rural people should share in program development. These should include cooperatives, credit associations, experiment stations, welfare societies, informal education services of the schools, churches, rural health cooperatives, youth organizations, women's working groups, zadrugas, nursery schools, and recreation groups.

Volunteer local leaders chosen by the people out of their own ranks and given informal training by extension agents should be increasingly utilized in an extension teaching program.

A democratically determined program should be worked out with groups of local farmers and homemakers. Practices of the better farmers and homemakers will serve as guides for this program.

Special emphasis should be given to the stimulation of organizations among rural youth. The cooperative movement and community life will be greatly strengthened if youth activity is directed toward training for group action and leadership. The development of a program of youth activity will require special training of personnel in problems of rural youth.

A comprehensive, well-balanced program which involves all phases of farm and home life for both adults and youth should be undertaken so that the development of any one phase may not be hampered by inadequate attention to related problems. Increased agricultural efficiency and income should be translated into more abundant and wholesome family living.

It appears that better-balanced and more effective service might be provided if greater use were made of extension specialists in the extension systems of the Balkan countries. As their name implies, the function of specialists is to maintain closer contacts with both scientific and practical developments in their field of specialty than is possible for local extension agents. Thus they strengthen and reinforce the work of local extension personnel. For sound development of the local program the specialists may encourage such agricultural experimentation, as is done by progressive farmers and homemakers in the villages.

Radio and visual media such as slides, slidefilms, traveling demonstrations, and clinics, should be used to an increased extent to emphasize pertinent local needs.

Personnel

1. *Desirable qualifications of extension personnel:*

- a. Rural experience and background.
- b. Physical strength and acceptable codes of behavior, that is, codes not in conflict with the local code or acceptances.
- c. A sympathetic understanding of local people and their problems.

2. *Preservice training of personnel:*

a. Training of future workers should include principles of economics and rural sociology and techniques of agriculture and home economics adapted to the needs of the area workers expect to serve.

b. Scholarships should be utilized if necessary, to provide suitable training for boys and girls having a rural background.

3. *In-service training:*

a. Use will be made of those already serving; for reorientation into the program, a comprehensive plan of in-service training must be set up on a continuing basis. This should be built on actual needs of the individual and should be flexible.

b. Workers should be kept informed about new developments in subject-matter fields and extension techniques, and concerning special programs needing emphasis from time to time.

c. An efficient and justly operated system of promotion and rewards for outstanding service and ability is a necessary corollary to selecting and training personnel.

4. *Use of leaders to broaden area of service:*

a. Increased emphasis should be placed upon use of local peasant leaders in extension programs, and informal training should be given to these leaders.

b. One of the fundamental difficulties in the conduct of extension work in the Balkan countries is that extension workers have an urban background, are without rural training, do not adapt themselves to rural situations, and often are unwilling to serve in the midst of existing village conditions. This condition indicates a need for—

(1) Interesting peasant boys and girls in getting adequate training in practical schools teaching the type of farming and homemaking practiced in their own home villages.

(2) Encouraging young peasant men and women to attend technical agricultural schools or colleges of agriculture, where they may be trained as leaders and research specialists needed by the county.

(3) A strong in-service training program for those already in the extension fields, to compensate for their lack of rural training.

Guiding Principles

Encourage the trend toward democratic administration of extension.

Enlist local financial cooperation, however small, in supporting extension work.

Enlist local cooperation in studying and determining local problems and needs.

Emphasize always the educational nature of extension and encourage every trend in the direction of separating regulatory activities from the educational except where successful regulation depends upon education rather than force.

Emphasize the value of informal instructional methods of extension as a means for educating youth, not only in agriculture and homemaking but in other vital interests of the rural community.

Consider and develop any extension program with reference to existing national and local cultural patterns.

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Southwestern Europe

Rural Extension in the Region

SOUTHWESTERN EUROPE, as defined and dealt with in this committee report, consists of Italy, Spain, and Portugal. These three countries have many physical, social, and economic features in common. In all three countries the terrain is largely mountainous, and the climate in large sections is characterized by hot, dry summers and by comparatively mild and rainy winters typical of the Mediterranean region. Italy is much more densely populated (354 inhabitants to the square mile in 1936) than either Portugal or Spain (204 and 127 inhabitants to the square mile, respectively, in 1930), but in Italy as well as in the Iberian countries agriculture is the main source of employment. A common racial and cultural heritage and the adherence of almost all of the people to the Roman Catholic Church are the reasons for other similarities.

Though a comparatively small area, the countries of Southwestern Europe assemble an unusual variety of types of farming, of forms of land tenure, of patterns of rural settlement. Within the wide range of regional variations, the agricultural economy of the three countries has many common aspects. Thus, extensive cereal cultivation and livestock husbandry are the main farm enterprises of the uplands, and along the southern shores of the Iberian Peninsula and the coastal fringes of Italy, horticulture, often based upon irrigation, takes first place.

Throughout southwestern Europe, the system of land tenure is marked by both small, owner-operated holdings and by large estates, often held by absentee owners. Likewise, within the agricultural population, a wide gap in social and economic conditions exists between the tiller of the soil on the one hand and the operators of large farms, landholding bourgeoisie, and agricultural technicians on the other. Middle-size farms are rare, as are farmers who employ unskilled labor as well as perform manual work themselves. In many parts of southwestern Europe the pattern of settlement is characterized by rural villages and towns rather than by isolated farm dwellings.

Natural and institutional factors are at the root of complex problems of land utilization, resettlement, and over-all improvement of agriculture. These problems must be solved through vigorous govern-

ment policies. A high degree of self-sufficiency in food prevailed in all countries of southwestern Europe in the thirties, partly as a result of comparatively low levels of consumption.

Although the long-time problems of agriculture and the economic policies heretofore pursued at home and abroad are much the same in the three countries, the immediate postwar problems connected with the rehabilitation of agriculture are significantly different. Italy will emerge from the war with all the handicaps of a country that has been the theater of protracted and intense military operations. Spain, which also suffered from warfare between 1936 and 1939, has had some time to rebuild her economy, but the rate of recovery has been slowed by the limited possibilities of importation of essential goods during the Second World War. The disruption of world trade has also affected Portugal, where, however, the agricultural production plant has escaped physical damage.

Italy

For over 20 months much of Italy was the theater of active warfare, which caused the loss both of human lives and agricultural and industrial wealth, especially in the central part of the country.

For many years to come, Italy must mobilize her limited material wealth and her human resources to rebuild farms and industrial plants, cities and railroads, ships, and herds. Even greater than the task of reconstruction, will be the problem of bringing both political and economic democracy to a people newly freed from 22 years of Fascist bondage. Moreover, if all sections of the population are to make equal sacrifices and contribute equally to the reconstruction of the nation, controls must be retained over many important sectors of the national economy. The Italian people are facing the task of achieving democracy and economic planning, speedy reconstruction and far-reaching reforms; and of curing not only the evils wrought by Fascism but those that brought Fascism into being.

Thus the events of the last few years tend to make Italy different from the other countries of southwestern Europe and partially to offset physical and social similarities between Italy and the Iberian peninsula.

Background

Italy, with its 120,000 square miles, approaches in size the State of Arizona and has a population of over 45,000,000 people. One-half of this largely mountainous country is worked with the plough and the spade. One-fifth is classified as permanent meadows and pastures, one-fifth as woods and forests, and one-fifteenth as uncultivated productive land, which leaves a comparatively small area unproductive.

Agriculture is Italy's main industry: 48 percent of the people gainfully employed are engaged in agricultural pursuits, and returns from agriculture and forestry constitute some 30 percent of the national income.

Varied natural conditions along with certain historical developments and institutional factors have given Italy an exceptionally diversified agricultural economy. In the north, fertile soils, favorable distribution of rainfall, abundant irrigation water, and a high degree of industrialization have made of the Po Valley one of the richest

agricultural areas of Europe. Here wheat, which together with the vine is a cornerstone of Italian agriculture, competes with corn, rice, and industrial crops. Here a progressive dairy industry derives sustenance from rotation meadows and luxuriant pastures. This region has always shown to the rest of Italy the path toward freedom and democracy, toward scientific progress and economic advancement. Central Italy is a land of patiently terraced hillsides, where wheat fields stretch among rows of olives and vines. In the south and on the islands of Sicily and Sardinia the coast is green with orchards and gardens; inland, plains, plateaus, and mountainsides offer wide expanses of land for extensive growing of small grains and pulses, and for migratory sheep husbandry.

Over one-third of Italy's land is held in large estates. Over 90 percent of her farms are less than 25 acres in size. Medium and large holdings, numbering little over 1 percent of the total, yielded in 1938 over 45 percent of the income from land.

Owners managed about 60 percent of the farms and an equal proportion of the land in farms. The rest of the land is operated in various ways ranging from the cash-tenancy basis in the north to metayage (a share system for farming land) in central Italy; from complex leases and subleases in the south to forms of collective operation in scattered sections of the peninsula.

Among the 19 million people that depend upon agriculture for their livelihood, two widely different groups may be recognized: The agriculturists (*agricoltori*) and the peasants (*contadini*). The former, numbering less than 1 million, are the operators of large farms and the city-dwelling rentiers who own small farms. This educated and sophisticated group may control as much as three-fourths of the land in farm and forest. The peasants make up the overwhelming majority of the agricultural population and include those with small and diminutive holdings, cash and share tenants, skilled and unskilled laborers.

The two groups differ in background, culture, and attitude toward life, and the gap between them is wide and almost unbridgeable. The absence of intermediate groups, similar to our midwestern farmers, is most conspicuous. Although levels of living among the agriculturists are comparable to those of the bourgeoisie of continental Europe, living conditions among the peasants vary greatly from one section to another. Where the peasant has achieved security and stability of tenure on his own or on leased land, he fares much better than do the low-income urban groups. In parts of northern Italy and most of central Italy he has attained such security and stability. In the south and on the islands, where most peasants live in large centers ("rural" cities) and must implement the income derived from their tiny holdings by finding work on the large estates, the peasantry approaches destitution.

Under normal conditions, the diet of the peasants shows no outstanding deficiencies that could result in nutritional diseases. However, the depression of the thirties was attended by pellagra and scurvy even in the heart of the Po Valley, Italy's most prosperous region.

Housing conditions are by far the darkest spot of Italy's agricultural life. According to a Fascist survey, one-third of the rural population lives in houses that are held unfit for human dwelling or are in need of major repair. The progress of Italian agriculture since the

First World War is too well known and was too well publicized to be dwelt upon here. Yet it must be pointed out that most advancements took place on large estates, with peasant-controlled farms lagging behind.

The fact that much of Italy is intensively cultivated—garden spots as the Po Valley, the Tuscan hills, and the orchards of Sicily—tends to conceal the great need of Italian peasants for assistance and guidance in developing higher skill and new farming practices. Agriculturists and peasants alike must be taught to utilize their resources more efficiently. The agriculturists must be assisted in developing greater managerial skill, and the peasants must refine their empirical knowledge by discarding countless prejudices and misconceptions. The need for greater knowledge is recognized in the dry areas of southern Italy, Sicily, and Sardinia, which heretofore have failed to find a combination of farming enterprises suited to the Mediterranean climate. But much remains to be done in the rest of Italy to achieve higher levels of production and better standards of living for the rural population.

From time immemorial the peoples and rulers of Italy have worked together to reclaim marshes and hillsides, mountaintops and lowlands in order to find more land for crop and livestock production. Thus public works and action programs have in Italy a glorious tradition which makes them part and parcel of any policy affecting agriculture. In few other countries is separation of extension work from action programs so difficult as in Italy.

Education

1. *General*.—In 1931, the latest year for which such statistics are available, 21 percent of the people of over 6 years of age were illiterate. The rate of illiteracy was low in the wealthier areas of the north and far higher in the agriculturally disadvantaged south, in Sicily, and in Sardinia.

Under the system of compulsory education, over 90 percent of the children of school age attended scholastic institutions. Conversely, educational facilities in terms of space and personnel are poor, teachers in State-owned schools averaging 44 pupils in 1936-37.

2. *Agricultural*.—Through private initiative and public action, Italy has developed a variety of agricultural schools. However, in spite of the long history of agricultural training in Italy, the country still lacks a well-coordinated system that might meet the need for both practical and scientific training.

The first development in agricultural education is the establishment of chairs of agricultural sciences in Italian universities, which began at Padua in 1765. A practical school for farm overseers was founded some 70 years later. The division between practical schools and scientific training continued until the early thirties, when steps were taken to permit graduates from practical schools to continue their training in royal universities.

The present-day system provides for the following types of schools:

- a. Free vocational schools, mostly for the training of skilled farm workers.
- b. Technical schools for the training of persons such as small landholders and farm foremen.
- c. Technical institutes, which give the equivalent of undergraduate training in specialized branches (dairying, viticulture, sericulture, etc.).

d. Faculties of agriculture, which give the degree of doctor of agricultural sciences.²

Agricultural faculties accept the enrollment of graduates from technical institutes, but the bulk of their students come from schools of science or of the humanities.

Most of the students in agricultural faculties come from families of landowners and are preparing themselves either to manage their family estates or to work for the Ministry of Agriculture.

In addition to the agricultural schools, special training courses and extension classes were organized by the Ministry of Agriculture, workers' syndicates, etc. Total attendance at training classes was about 400,000 students.

Research and Experimentation

1. *Institutions dealing with agricultural research were reorganized in 1933 establishing:*

- a. Experiment stations in charge of general work and of studies of pedology;
- b. special experiment stations in charge of research connected with a specific enterprise (rice, corn);
- c. plant-pathology stations;
- d. institutes for research on agricultural industries;
- e. animal-husbandry institutes.

2. *Scientific academies dealing in part or exclusively with agricultural problems have long existed in many Italian cities.* Beginning in 1933, the Royal Academy of the Georgofili in Florence was given special research tasks in such fields as rural electrification, land-tenure arrangements, and olive cultivation.

3. *The increasing interest in problems of agricultural economics led to the establishment of—*

a. A National Institute of Agricultural Economics, with headquarters in Rome and regional observatories attached to the Department of Agricultural Economics of the Royal Universities. The institute made economic surveys of special areas and undertook the task of describing and analyzing the land tenure and labor relations in the 18 compartments of the realm.

b. A national observatory, later National Institute of Agricultural Law, which studied all problems accruing from legal arrangements and local customs obtaining in the field of agriculture.

Extension

Extension services originated as local organizations supported by local (provincial) bodies, by leading farmers, and by charitable institutions. The first extension agency, known as the Itinerant Chair of Agriculture, was organized in Rovigo (Northern Italy) in 1886. Thereafter similar chairs were established throughout the country, again as purely local bodies.

The itinerant chairs had as their main task the one of assisting farmers in adopting better techniques, carrying on experimentation, and the like. Although the local nature of the chairs fitted extremely well in the different pattern of the agricultural economy their dependence upon local contributions gave birth to serious difficulties. Consequently, in 1906, all chairs were brought under the joint control of the state and of local organizations. Furthermore, the State established new chairs in those sections of the country where local initiative was wanting, as in some of the most disadvantaged areas of the kingdom—the southern regions and Sardinia.

² In addition the University of Florence has a faculty of forestry, attended mostly by the officer candidates of the Royal Forest Corps. The enlisted personnel and the noncommissioned officers of the Forest Corps are trained in special schools.

Throughout Italy, the institutionalization of the chairs was attended by a general improvement in the educational level of their staff, which was mostly recruited from graduates of royal universities. Thus the personnel of the chairs came to consist mostly of scientists rather than of extension workers. By background and training the staff was much closer to the upper strata of the agricultural population than to the peasant groups. The students entered the agricultural university after a thorough training in humanities and mathematics and so could have little or nothing in common with the tiller of the soil who, under the very best conditions, had but few years of elementary school.

The Fascist reform of the chair system was gradual. It began with legislative provisions designed to bring the chairs under the full control of the state and reached its climax in the law of June 13, 1935. This law substituted for the chair peripheral units of the Ministry of Agriculture, known as regional and provincial inspectorates. These bodies direct the technical management of agriculture in their district, the activities of demonstration and vocational instruction, technical advice, compilation of agricultural statistics, and, in general, the improvement of the organization of agricultural production.

In later years the inspectorates were also placed in control of the cooperative organizations of agricultural producers, of the commodity pools, and of other marketing cooperatives.

With the rebirth of a democratic Italy, certain farm groups and agricultural experts demanded that agriculture be freed from the harness of governmental supervision and planning, and that the inspectors perform only the functions of the former chairs of agriculture. However the economic dislocations brought on by war, the shortages of farm supplies and foodstuffs, the steady growth of black markets, and the spiraling inflation merely increased the need for economic planning and strict control. With the abolition of Fascist syndical organizations, the inspectorates must now handle all problems of supply allocations and production planning.

In addition to the inspectorates, a number of other government agencies were active in the field of extension during the Fascist regime. They all have now disappeared with the exception of the resettlement agency known as the National Association of War Veterans. The association gave assistance and training to peasants who settled on its reclamation and colonization projects.

Problems of Extension Work in Italy

Agricultural reconstruction in Italy will be carried on together with certain social and economic reforms. All the political parties that fought the Nazi invader and the Fascist oppressor are now shaping programs for the reorganization of administrative and educational facilities. In the field of agriculture, and with particular regard to extension work, current Italian thinking has been influenced by the steady exchange of ideas and suggestions between Italian administrators and farm leaders on the one side and American members of the Allied Military Government and of the Allied Commission, on the other.

In reorganizing her extension service as well as many other peaceful activities, Italy may wish to have the advice of the United States. For this reason the Committee thinks it worth while to consider here

certain problems, which, though by no means unique to Italy, significantly affect extension work in that country.

Extension in Italy cannot mean "to bring practical knowledge to farmers," for farmers in the American sense of the word hardly exist in Italy. The task of bringing knowledge to peasants and agriculturists alike is far more complex. The two groups differ in levels of education, in financial means, in their needs, and in their aspirations. To bring knowledge to the agriculturists is a comparatively easy task and a type of work that will yield quick results in terms of improvement of natural resources and increased productivity. But for effective extension work among the peasants, both their general levels of education and their economic opportunities must be improved.

Within the limited financial resources of the Italian Government, program administration takes precedence over extension work. This is especially true for extension work directed toward the peasants.

Italy's system of agricultural education hardly provides for special training of the staff of the Ministry of Agriculture and even less for training of extension personnel. Yet, in the field of forestry, the need for special training has been recognized and has led to the establishment of special schools for the different types of personnel of the Royal Forest Corps. Thus reorganization of extension facilities may well begin with a reform of the system of agricultural education which is now being advocated by a number of farm leaders.

Spain

The Spanish Civil War ended on April 1, 1939, and the Second World War began some 5 months later (September 3, 1939). The Civil War exacted a heavy toll from Spanish agriculture, especially in the southern and eastern parts of the country. Buildings, livestock, and trees were destroyed, the fields went without proper care and adequate fertilizer application. At the end of the civil war the stores were empty and the people undernourished.

The outbreak of the Second World War prevented Spain from recovering as rapidly as possible. The restrictions established by the belligerent countries as weapons of economic warfare together with the lack of shipping facilities deprived Spain of needed capital goods in whole or in part. Short supplies of tractors and other farm machinery, tools, nitrogenous fertilizer, and trucks, which in Spain are indispensable for moving farm commodities from rural areas to railroad centers, made the reconstruction task tremendously difficult. This circumstance and the failure of the 1940 wheat crop stood in the path of a return to normal conditions. In spite of all obstacles, Spain has progressed along the road to recovery.

Background

Spain, one of the largest countries of Europe, ranks nineteenth in density of population. Its continental territory consists of a vast central plateau, broken and bordered by high mountain ranges, and two narrow coastal fringes of low-lying land, washed by the Atlantic Ocean and the Mediterranean Sea. The rugged relief and proximity to different seas combine to give Spain an extremely varied climate. Some areas have temperatures as high as 45° C., and others temperatures as low as -19°C. In the north, the annual rainfall exceeds 1,500 millimeters and in the southeast it drops to less than 200 milli-

meters. The north has fewer than 30 days of sunshine a year, and the south more than 150.

Agriculture is the main occupation, and it accounted for nearly one-half of the gainfully employed in 1930. Some three tenths of the total area is used for plowland, and about one-tenth is devoted to olive, citrus, and other fruit orchards, vineyards, and truck gardens. Almost one-half of the country, including large areas under brush and woods and forest, is exploited as grazing land, notably for sheep and goats.

During the last 5 pre-Civil War years, agricultural products such as wine, olive oil, citrus and other fruits, vegetables, and rice accounted for two-thirds of the value of all Spanish exports. At that time, the country was on a deficit basis not only for textile fibers and a number of other raw materials of agricultural origin, but also for some staple foods such as fish, legumes, and, in years of poor yields, wheat. On the average in the period 1931-35, imports of foodstuffs in terms of calories approximately equaled exports.

The salient features of the agricultural economy vary greatly from section to section. In general, the following may be considered the main agricultural areas: In the cool, rainy Atlantic fringe, forage crops, corn and root crops, a variety of fruit trees, and vineyards in the western section, are the main agricultural enterprises. In the central plateau, agriculture is based on cereal growing, sheep raising, and cultivation of vineyards, with olives assuming importance to the south. Southern Spain grows Mediterranean and subtropical crops between Gibraltar and Cape Nao. The great specialties of eastern Spain are citrus fruits and rice. Thus Spain and the Western World produce the same kinds of crops.

Connected with the variety of crops is the variation in forms of land tenure, which range from large, latifundistic estates to tiny, overfragmented holdings.

Living standards of the peasants vary greatly according to region. In the north and along the eastern coast, the peasants live much better than do the low-income urban groups. In southern Spain, living conditions are poorer principally because olive groves and similar agricultural enterprises, which occupy a great area in the region, do not provide year-round work for the peasants.

With regard to nutritional conditions, the diet of the peasant shows a marked variation from region to region. In normal times, dietary deficiencies to which nutritional diseases can be attributed are not great. If some sporadic cases of pellagra and rickets exist, they are not a national or regional problem.

The agrarian population lives principally in small villages, rural communities, hamlets, and, in southern Spain, in large towns. Wooden houses are few. The majority of dwellings are made of stone or brick.

Since the Civil War, action programs have been developed and are being carried out to better the living conditions of the rural population. Many villages and peasant towns, which were in the path of the armies during the war, are now being reconstructed under new and modern plans. These programs, together with others for reforestation, colonization and settlement, reclamation, rural electrification and the organization of production syndicates, tend to ameliorate the living conditions of the Spanish peasant.

Education

1. *Primary education*.—According to the Census of 1930, over 40 percent of the Spanish population could neither read nor write. The rate of illiteracy varies greatly from province to province and is higher in the disadvantaged rural areas. Yet, in such ancient countries as Spain, illiteracy does not mean lack of culture, for if the peasant is short in bookish learning, he still possesses the wisdom of ages, whose value must not be overlooked or underestimated.

The efforts made by the Spanish Government to improve general levels of education deserve special mention. Elementary schools in Spain numbered 44,415 in 1940-41, or 3,206 more than in the period 1932-36. Facilities were also developed for adult education, primary instruction being given to half a million adults.

2. *High schools*.—The state maintains at least 1 national institute for secondary education in the capital of each of the 50 provinces. The big cities generally have 2 institutes. These charge a rather low fee and are as large as the average college or university. Graduates receive the degree of "bachelor." In addition to the official institutes, there are a great number of private high schools, but all the pupils of these schools must pass examinations at the institutes to procure their degree.

3. *Advanced agricultural education*.—The principal function of advanced agricultural education in Spain is to provide personnel for the agricultural administration and for action agencies. The two basic categories of the civil service (directive and auxiliary personnel) are reflected in a dual system of higher agricultural education.

Personnel with directive functions is trained in the special school for agricultural engineering, whose graduates have the right to enter the services of the state with the rank of agricultural engineers. The degree in agricultural engineering is, by law, equivalent to the doctor's degrees conferred by universities in such fields as science and philosophy.³

The equivalent of undergraduate training in agriculture, in the American sense, is given by schools for agricultural experts, whose graduates, after competitive examination can enter the auxiliary agronomical service.

The same framework exists in the field of forestry, and one school provides training in veterinary science.

4. *Agricultural research*.—A network of experiment stations, integrated in a National Institute of Agricultural Research, provides experimental and research work on the outstanding problems of each of the main agricultural regions of Spain. The stations have made important contributions to the solution of complex scientific problems and the fruits of their work have not only helped Spain but other areas also of the Mediterranean Basin.

Extension

1. *Extension Service*.—No special branch of the Spanish Ministry of Agriculture is exclusively concerned with extension work. Conversely a number of administrative, research, and action agencies perform, among other duties, that of giving the farmer practical infor-

³ A degree of agricultural engineer is also conferred by the Instituto Catalan de S. Isidro, Barcelona, but does not entitle its holder to work for the state.

mation, at the time he needs it, in a practical form he can use. The experience of centuries has taught the Spanish farmer how, with limited resources, to till his land, which frequently is poor. The citrus groves of Valencia are outstanding examples of agricultural skill, and throughout Spain terraced hillsides, irrigation works, and luxuriant orchards bear witness to the hard work of the Spanish peasant, his attachment to the soil, his courage and tenacity. Obviously, generalized or blanket programs would be out of place.

On the other hand, in those sectors of the economy where efforts are made to increase the productivity of the soil and improve the lot of the peasant by supplying him with better land, helping him toward land ownership, or improving marketing methods and facilities, the agencies administering such programs strive to give the farmer the higher skill and knowledge that are needed to take full advantage of the newly provided and better economic opportunities. In each of Spain's 50 provinces, there is an agronomical service, which in addition to administrative tasks performs the duty of giving technical assistance to farmers. The service also arbitrates disputes relating to agricultural marketing and agricultural contracts. Information and assistance in technical fields are provided by the experiment stations, which also organize special courses for foremen. Both experiment stations and the agronomical service organize fairs, exhibitions, and competitions among farmers. An important share of the extension work is performed by the National Institute of Colonization, which administers the three important laws for (a) colonization of large areas, (b) reclamation of local interest, (c) land parceling. The first law provides for the reclamation, drainage, and irrigation of large areas. The state is to contribute 40 percent of the cost of this work. On the improved land, resettled farmers find greater economic opportunities.

The second law provides credit facilities and technical assistance to small farmers, either individually or banded in associations (syndicates), who wish to improve their soil, repair or reconstruct farm buildings, and make new plantations.

The third law provides for the conversion of landless tenants into owners. To this end, large farms are purchased by the institute for colonization and are subdivided into family-size holdings. The newly established holdings are then assigned to former tenants who make a down payment of only 20 percent of the value of the farm and pay the balance in annual installments over a period of 20 years.

The work of training and assisting the peasants goes hand in hand with the development of the aforementioned laws.

Again the syndicates of producers not only provide their members with better economic conditions but with technical information, guidance, and advice on the production and marketing of their crops.

A complete review of extension facilities in Spain is tantamount to a description of the facilities and services of the Spanish Ministry of Agriculture.⁴ The Ministry has a long tradition of effective work to help the Spanish farmer and has pioneered in many fields of agricultural work. Thus, Spain was the first nation to establish a foreign agricultural service (1924).

As compared to the other countries of southwestern Europe, Spain has developed a remarkable variety of official agricultural publications

⁴ Charts and other material on the Ministry of Agriculture are available in the U. S. Department of Agriculture Office of Foreign Agricultural Relations.

both popular and technical, which are aimed at the different groups making up the agricultural population of the country. An array of periodicals dealing with the scientific and economic problems of agriculture and nutrition further helps to disseminate knowledge. Finally both radio and moving pictures are effectively used for extension work.

2. *Extension problems.*—During the past few years, the shortage of imported means for production has greatly hindered the rehabilitation of Spanish agriculture. Yet the degree of recovery achieved in the face of tremendous odds bears witness both to the qualities of the Spanish farmer and the effective work done by the Ministry of Agriculture.

Thus Spain does not need technical assistance for developing or maintaining her training and extension facilities. Once the means for production will again be available, existing agencies and programs will be in a position to use those resources to the best advantage of the Spanish farmer.

Portugal⁵

Neither internal struggles nor foreign invaders have wrought harm to Portugal for over a century. However, during the Second World War, disruption of international trade has hindered the development of Portuguese agriculture. At the same time crowds of homeless refugees, flocking to Portugal from Axis Europe, have been taxing the food resources of their temporary haven.

At the end of the great conflagration, Portugal will not have to rebuild farm dwellings or rehabilitate herds and flocks; conversely, its agricultural production plant should be renewed and improved. Moreover, in the immediate future, Portugal's complex problems will constitute a stupendous challenge to those who struggle to insure to the rural people a better and fuller life.

Background⁶

Continental Portugal has an area of some 33,000 square miles, of which some 37 percent is in fields, gardens, and orchards; 28 percent in forests; and 15 percent is not cultivated, but productive. About 15 percent of the total area is now unproductive, but could be reclaimed.

Agriculture is Portugal's main source of employment and income. In 1930, 46.4 percent of the people depended upon the land for their livelihood and 46 percent of the gainfully employed were engaged in agricultural pursuits. Of those working in agriculture, 41.3 percent were women. The value of crop and livestock products is from three to five times as large as that of the nation's industries.

Natural, economic, and social conditions warrant, for report purposes, a division of Portugal into three main areas. Northern Portugal is characterized by a moist climate and abundant water resources. Small and medium-size holdings, owner-operated, form the basic pattern of land tenure. The people live in dwellings scattered over the countryside. Among the field crops corn to the west and rye to the

⁵ The Republic of Portugal comprises continental Portugal on the Iberian Peninsula, the Atlantic Islands of the Azores and Madeira, and the huge and far-flung colonial empire in Africa (Angola, Mozambique), and in Asia (Timor, Macau). Most of the agricultural statistics are available only for continental Portugal, to which most of the literature is also confined. For this reason this report considers only the continental area, which comprises 97 percent of the land and 92 percent of the population of metropolitan Portugal.

⁶ In spite of the tremendous progress achieved in recent years, prewar statistics for Portugal are not entirely adequate. In the absence of a land survey, reliance must be placed on the estimates of experts for information on such important items as land tenure and land utilization.

east predominate. Wine is the main commercial product of this area. In the region south of the Tagus River—known as Alemtejo—irregular rainfall, excessive summer heat, and poor soils have contributed to the permanence of large estates, absentee-owned and extensively cultivated. Wheat, barley, oats, and cork are the main products of this sparsely populated section.

The southernmost section of Portugal, the Algarve, is rich in horticultural products such as oranges, figs, and almonds.

The sharp contrast between the agricultural economy of the north and that of Alemtejo is clearly shown by the scanty statistics on size of holdings.

"Farms"⁷ average less than 7 acres in size in the northern district of Viana do Castello, as compared with some 130 acres in Evora (Alemtejo).

Regional differences in natural environment, land tenure, and types of farm enterprises have a parallel in regional differences in the pattern of rural life.

... in the north the peasant is courageous, industrious and enterprising and is wedded to the soil which he cultivates with devotion and care. These conditions are not reproduced in the south, where the self-interest of the peasant cannot flourish to the extent that it does in the north.⁸

Levels of living among the peasants, as reported in a limited number of case histories, vary greatly, depending upon the locality and the employment status of the head of the family. Among the striking features of family budgets are the high percentage of income spent for food (from 75 to 95 percent), the presence of negative food habits (especially the *caldo verde*, a high-priced concoction of low nutritive value), and the extremely marked variation in the reported intake of calories and food constituents. Housing conditions are also poor, for in many parts of Portugal man and beast share the same dwelling.

Even greater than regional differences among the agricultural population, is the gap between the great landholders and the landed or landless peasants. The former are few in number (some 5,000 out of a total of 1.4 million landowners) and yet receive about one-fifth of the agricultural income of the nation. They form an aristocracy of blood and wealth whose way of life, be it in country manor or city mansion, is that which obtains for a privileged few the world over.

Both the upper strata of the agricultural population and the people of Portugal as a whole owe a great debt to the hard-working, poverty-ridden peasantry.

... the qualities of the Portuguese peasant ... have a definite and substantial value in the country's economy, its resistance to adversity, and its promise for the future. ... The devotion of the Portuguese peasant to the soil, his industry, courage and faith are allied to a courtesy, simplicity and cheerful acceptance of his lot which impress the observer with the fundamental strength of a class which for centuries has tilled and toiled with little reward but the mere essentials of existence.⁹

Beginning in 1929, Portugal entered an era of constitutional and economic reforms, such as were not witnessed in the country's history

⁷ The sole statistics available are based on tax rolls, which show the average size of tracts (*predios*) and the average number of tracts owned by the taxpayer. "Farms" as used here are assumed to consist of a number of tracts, ranging from 9.8 in Viana do Castello to 2.8 in Evora.

⁸ KING, A. H. W. REPORT ON ECONOMIC AND COMMERCIAL CONDITIONS IN PORTUGAL. [Gt. Brit.] Dept. Overseas Trade 652, 87 pp. London. July 1936. (See p. 41.)

⁹ KING, A. H. W. REPORT ON ECONOMIC AND COMMERCIAL CONDITIONS IN PORTUGAL. [Gt. Brit.] Dept. Overseas Trade 715, 88 pp. London. Aug. 1938. (See p. 41.)

after the eighteenth century. The agrarian problem is the most formidable of all the problems the Government has to face, and progress is bound to be much slower than in any other field of state endeavor. Although the primary aim of Portugal's agricultural policies was the achievement of a greater degree of national self-sufficiency in basic foodstuffs, a wide range of programs is needed to increase the productivity of the nation's farms and to improve the lot of the peasantry. The desolated south must receive water for crops, man, and beast; radical changes are needed in the pattern of settlement and in the system of land tenure. Much boggy land must be drained. Mountain-sides must be protected from erosion. From north to south the forests, which yield a sizeable share of the nation's income, must be protected and improved.

Thus Portuguese agriculture offers a stupendous challenge to social and economic planners. Research, education, and extension facilities will play a strategic role in Portugal's struggle for a better and fuller life.

· Education

The Census of 1930 shows that two-thirds of the total population of Portugal was illiterate, the proportion of illiterates being 75 percent outside the two main cities of Lisbon and Porto.

Though general levels of education have improved significantly in recent years, statistics on school attendance indicate that less than two-thirds of Portugal's youth receive even a minimum of formal education. In 1936-37, 62 percent of the children of school age were enrolled in public schools. In the poorest sections, such as the district of Beja (the heart of the arid south), only 37 percent of the children attended public schools.

Thus many of the benefits of modern civilization are denied to the very people whose forefathers once plied uncharted seas and hoisted their flag over the wilderness of remote lands.

Although a problem of general education exists in many countries of western Europe, nowhere else does it constitute so great a challenge as in Portugal. A fight against this widespread illiteracy not only involves the provision of more and better educational facilities, but necessitates far-reaching economic adjustments that will free school-age children from the obligation of working for their livelihood. Such adjustments should also provide the adult population with an adequate incentive for improving their knowledge and their skill.

Until illiteracy is sharply reduced, agricultural education in Portugal can aim only at the making of leaders and teachers, while reaching only a small minority of the tillers of the soil.

Only against this background of widespread illiteracy can the Portuguese system of agricultural education be analyzed and understood. Agricultural education in Portugal does not and cannot hope to reach the rural masses. It can only hope to form the cadres of the huge army of the tillers of the soil. For this reason, and also as the effect of deeply embedded tradition, formal training in agriculture leads to the formation of different classes of agricultural technicians whose occupation and station in life will be different. Thus the agricultural schools represent different branches of education and activity rather than successive rungs in an educational ladder which, in other coun-

tries, a student might climb if his ability and financial resources permitted.

Foremen (*feitores agricolas*) are trained in two practical schools, which in 1936-37 had a total enrollment of 130 students. These are essentially vocational schools, which train the lower type of supervisory personnel for the large estates, as well as a few skilled farm operators. Agricultural teachers are trained in a professional school with some 50 students. A combination of practical and theoretical education is to be found in the three schools for agricultural managers (*regentes agricolas*), with a total enrollment of over 500 students. From among the graduates of such schools are recruited the lower ranks of the extension and administration personnel.

Research and higher administrative positions are reserved to the agricultural and forest engineers who graduate from the Agronomical Institute of Lisbon, which enrolls over 300 students.

Family background, earlier training, and the type of education received in the institute are all factors that tend to differentiate sharply the agriculture or forest engineers from the *regentes agricolas* or from the agricultural teachers. The students of the institute come from families of large landowners or white-collar workers. Before engaging in the study of agricultural science, they have studied a variety of subjects, many of which have little practical value and yet play an important role in molding the mentality of the upper classes.

Such interest in knowledge as such, rather than for its practical value, is also evident in the education supplied by the institute. Moreover, there has been less time to test the adequacy of curriculums and training methods in agriculture and forestry, which are relatively new branches of higher learning, than of those in medicine and law.

1. *Research and extension*.—The agricultural research workers of Portugal can be proud of what they have achieved with the limited means at their disposal. Nevertheless much remains to be done in the field of agricultural research. Studies of soil and plant improvement lack coordination.

In some fields of research, Portugal has been able to take advantage of the work done in other countries (Italy, Spain) under similar conditions. However, at times the introduction of improved varieties of crops from abroad has given unsatisfactory results.

Nor are the achievements of scientific research fully exploited. Work which in more advanced countries would be highly appreciated, in Portugal is little known outside the places where it was carried on.

For an explanation of the unsatisfactory conditions, so frankly outlined here, consideration must be given to Portugal's facilities for extending knowledge to farmers.

The development of extension work in Portugal closely resembles that of Spain and Italy. Up to the late twenties, extension work might have been defined as the efforts of itinerant chairs and itinerant schools to bring better knowledge to Portuguese farmers. Nowadays, Portugal has no specific branch of the Ministry of Agriculture that engages exclusively in extension work. Conversely, within the framework of Portugal's corporative system, a number of administrative and action agencies perform extension work to implement their other activities. Field offices of the Ministry of Agriculture, known as *brigadas tecnicas*, are located in every agricultural region of the country. These offices provide crop reports, collect agricultural statistics, and give technical

assistance to farmers. The assistance to farmers is given through personal contact, dissemination of printed literature, and operation of demonstration fields. Unfortunately the brigadas lack experimental fields in which to test the adaptability to local conditions of modern methods and improved seed.

Producers' associations, such as the National Federation of Wheat Growers, and organizations administering commodity programs, such as the National Institute of Port Wine, carry on research and extension work related to the commodity with which they are principally concerned. Both research and extension work are used as means to fulfill the purpose for which the organizations have been established—the handling of commodity programs. Some of the commodity programs (programs for expanding production of wheat and rice) have met with considerable success, but the achievement of production goals has been essentially contingent upon acreage expansion rather than upon improvement of farming practices.

Under extension programs, the "people's houses" must finally be considered. These are community centers, apparently most popular among rural youth, that organize discussion groups and courses in agriculture, general education, physical training, and the like. Special courses are planned for farm women.

Membership in the community centers is restricted to Portuguese nationals who are also residents of the parish; thus absentee landowners are excluded.

Up to 1940, people's houses had been established in 200 out of the 3,705 parishes of Portugal. The high cost of such projects appeared as the main factor limiting their expansion.

2. *Extension problems.*—Through centuries of toil and struggle for survival, Portugal's farm population has learned ways and means to cope with the natural environment and eke out a living from the soil. The natural ingenuity of the peasant backed with the experience of ages has created the irrigated fields, the rich vineyards, the luxuriant orchards that stand as garden spots on the varied and beautiful landscapes of ancient Lusitania.

From his forefathers, the peasant has inherited a body of knowledge which guides him in his farm work. Modern research indicates that some of this traditional knowledge is ill-founded and points to considerable misuse of such available resources as irrigation water and farm manure. The lot of the Portuguese peasant could be significantly improved merely by implementing his traditional culture with the fundamentals of modern farming.

The task of improving the skill and knowledge of the peasant cannot be minimized. The widespread illiteracy not only bars many channels of communication between the research laboratory and the peasant holding but also tends to widen the gap between the peasant and the trained agricultural worker. The peasant pays little attention or merely listens scornfully to the "intellectual" who tries to change age-old practices.

Many of these obstacles can be overcome with a knowledge of adult psychology and modern methods of demonstration. Moreover the Committee believes that intelligent handling of action programs will bring better knowledge not only to the rural people directly affected by such projects as resettlement and colonization, but also to the majority of peasants in the region where such programs may be cen-

tered. The experience of other countries is a clear evidence that agricultural progress accrues when groups of more advanced farmers settle in backward areas. Sooner or later the achievements of new settlers become a challenge and a stimulus to the original residents of these areas. In Portugal, the important programs for irrigation expansion, which have only been initiated, may substantially modify the natural conditions of parched Alemtejo. The planned resettlement on newly irrigated areas of peasants from the more advanced sections of Minho may offer the grain farmers of the south a practical demonstration of the advantages of greater diversification and better husbanding of resources.

Guideposts for Extension Work in Southwestern Europe

1. *The three countries of southwestern Europe.*—Italy, Portugal, and Spain have many common natural and institutional features as well as social and economic problems. Recent events tend to differentiate the nature of reconstruction work in each country. In war-stricken Italy, agricultural reconstruction must be attended by a return to democratic institutions. In Spain the work of repairing the damage wrought by the civil war must now gain momentum with increased importation of essential production goods. Portugal has escaped physical losses and needs to offset the economic dislocations caused by disruption of world trade.

2. *The history of the three countries of southwestern Europe* is closely interwoven with their present and their future. Just as the monuments of ages past dot their countryside, so does their ancient civilization survive in a folk culture which is a great asset of their peasantry who are often short on bookish learning.

3. *The agricultural economy of the three countries of southwestern Europe* has been and is deeply affected by far-reaching government policies aimed at the expansion of production, the reclamation of idle land, the resettlement of landless peasants, and the improvement of marketing. In connection with these programs and the new economic opportunities they provide, the farmer needs assistance and training to improve the traditional knowledge he has inherited from his forefathers.

4. *The three countries of southwestern Europe* do not have a specific service solely dedicated to the task of extending knowledge to the farmer. The absence of an extension service does not mean lack of extension work. Instead a number of agencies perform extension tasks, in connection with their other functions and in implementation of them. General extension work is performed by local units of the agricultural administration. Educational and research institutions also strive to extend modern knowledge to farmers. Finally the agencies in charge of action programs necessarily implement their work by guiding and training the farmers to whom such programs provide better economic opportunities.

5. *These circumstances require* that cooperation between the Extension Service of the United States and the various agencies found in the three countries of southwestern Europe be on a functional rather than on an organizational basis. Institutions, personnel, and facilities differ widely; tasks and problems are sufficiently similar to establish an ideal link between the countries of southwestern Europe and the New World first discovered by their brave explorers.

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NOTE.—This particular Committee report was completed after VE-day.

The Middle East

The Region and Its Rural Culture

Countries Involved

THE REGION under consideration consists of the following countries: Egypt, Palestine, Trans-Jordan, Lebanon and Syria, Iraq, and Iran. Cultural variations exist within each of these and each differs from the others to a greater or lesser degree. Underlying these lines of differentiation, however, are the bonds of a common cultural base, a way of life that characterizes the region as a whole. Here was the cradle of the great ancient civilizations and of three world religions, Judaism, Christianity, and Islam. As conquest followed conquest over this strategic bridge of nations, from the ancient Egyptians, Babylonians, Assyrians, Hebrews, Persians, Greeks, and Romans, to the Arabs, the Turks, and modern western powers, cultures developed, intermixed, and passed on a common heritage to future generations. This cultural heritage at present can be characterized as predominantly Arab.¹⁰ Not less than 85 to 90 percent of the people in the whole region are followers of the Islamic religion, the rest being mainly Christians and Jews. Except in Iran, Arabic is by far the predominant mother tongue. The Iranian language also has borrowed from Arabic its script and a good deal of its vocabulary. All the countries concerned share in the main outlines of a family organization, land economy, and an agricultural heritage in which the nomadic tribe, the village community, tenancy and share cropping, and old techniques of cultivation are outstanding features. At the same time there is a striking similarity among the main socioeconomic problems that prevail in various parts of the region. Consequently, the principles and techniques of extension that apply in one of these countries are generally applicable in the others.

¹⁰ The broad cultural term "Arab" should not be confused with the religious term "Moslem." There are Moslems, Christians, Jews, and other religious groups within the Arabic culture.

General Physical Features

The region in general may be characterized as hot and dry. However, extreme topographical and climatic variations are encountered. The life of Egypt depends almost completely upon the great Nile, which irrigates a relatively narrow but fertile valley. The rest of the territory consists mainly of desert land, with a few scattered oases. Only the coastal section in the north has a few inches of rainfall during the winter months; in the interior almost no precipitation takes place.

Moving northeast from Egypt, we encounter first a narrow, fertile coastal plain which forms the western borders of Palestine, Lebanon, and Syria. Here precipitation ranges from a few inches in the south to 30 and 40 inches in the north. Parallel to this coastal strip runs an extensive mountain range which reaches its extreme height of over 10,000 feet in Lebanon. Here precipitation, in the form of snow and rain, is also relatively heavy. Beyond these mountains stretch the extensive plateau and deserts of the interior, where precipitation becomes scantier as the distance inland increases. This plateau slopes in a southeasterly direction until it merges with the ancient fertile valley of the Tigris-Euphrates, which forms the territory of Iraq. Here again agricultural life depends primarily upon irrigation.

Farther east lies the extensive territory of Iran, which consists mainly of a huge central plateau, surrounded by massive mountains. Rain is plentiful only in the fertile Caspian littoral and on the mountain slopes in the north. It is very scanty in the interior, where extensive deserts exist. Consequently, cultivation is determined to a great extent by the availability of underground water for irrigation.

Finally, mention must be made of the peculiar depression of the Jordan in Palestine. This valley stretches from the Sea of Galilee to the Dead Sea, with an altitude ranging from 400 to 1,200 feet below sea level. Here the climate and vegetation are virtually tropical.

In concluding this brief physiographic description, the Committee cannot overemphasize the fact that the water element has been a determining factor in the agriculture of the region and in the life of its people. Precipitation over extensive areas is not only scanty but also erratic. Consequently, agricultural production alternates between the extremes of "feast" and "famine." Any attempt at significant change in the rural economy of the Middle East must take this primary factor into consideration. This is principally the reason for the fact that at present not more than 7 percent of the total area of the region is under cultivation.

Population Aspects

About 43 million people live in the region. Egypt leads, with about 17 million, Iran being nearly as dense, with 15 million. Iraq has 5 million; Syria and Lebanon, 4; Palestine, 1.6; and Trans-Jordan, 0.4. The greatest concentration by far is in the Nile Valley, where density is greatest, with 1,300 people to the square mile of cultivated area, whereas in the rest of the region it ranges from 200 to 500.

Coupled with the limited area under cultivation is the tendency toward a high natural increase among the people of the region. Infant mortality is high, but the birth rate is still higher. With the advent of modern medical care and sanitation into the rural areas of the Middle East one can reasonably expect an acceleration of population growth. Here we have the elements of a serious problem, that of the

balance between land and people, which should not be overlooked in any long-range project of rural extension or rehabilitation.

With respect to occupation or general way of life, the population may be separated into three major groups: The nomadic or partly settled tribes that raise the livestock; the village folk, who till the land; and the city dwellers. The last-mentioned group does not constitute more than one-fourth of the total population. For example, of the total Iranian population of 15 million, not more than 2 million are city dwellers who do not engage in agriculture. Similarly, the non-agricultural urban population of Egypt is estimated at 25 percent of the total. The tribal group also constitutes a minority, amounting to about one-sixth (7 or 8 million people) of a total population of 43 million. Consequently, the bulk of the population (about 60 percent) falls under the third category—the village dwellers, who depend directly upon agriculture for a living. This is the group that constitutes the backbone of the region as a whole, and toward which the main effort of extension should be directed.

The Tribal Community

In each of the countries under consideration is what may be called a tribal core, which is of some influence in Egypt, but of great influence in the rest of the region. It consists of nomadic or partly settled people. For countless centuries these migratory tribes have roamed over the plains and plateaus, following the seasons with their flocks of sheep and goats and herds of camels and cattle. Their fundamental role in the total way of life in the area is indicated by three major contributions. From the overflow of their numbers they have added to the population of the region, from the surplus of their livestock products they have supplemented the national agricultural economy, and through their tribal organization they have influenced the folkways and mores of the local village and city culture.

The Village Community

Perhaps the most outstanding characteristic of rural life in this part of the world is that practically all cultivators of the soil live in villages. The typical village consists of a conglomeration of houses built of adobe or stone. This pattern of settlement has been conducive to the development of intimate and intensive social intercourse among the people. This and other factors have given rise to a well-defined and stable village culture, the main pillars of which are as follows.

First there is the land, which plays an important role in the life of these rural people. It is the foundation of their agricultural occupation, the source of their livelihood. More than that, it is the same land on which their ancestors lived and worked for many generations. Their attachment to it is strong and emotional. The terms of their land tenure differ according to the different and complicated systems and categories that prevail within the region. The two principal forms are mulk and miri. Mulk is land owned in fee simple, entailing practically absolute rights with respect to disposal and manner of cultivation. Miri is land owned by the state, and is of two types, either rented to tenants for differing periods of time or granted indefinitely to a farmer and his progeny against the payment of a regular tax. There is also wakf land, which is held in trust for religious or charitable purposes. In many villages the mesha' system prevails, wherein

the land is the property of the community as a whole or is owned jointly by several persons. Individuals or families own a certain number of shares, which entitle them to cultivate a certain portion of the community territory.

An important aspect of land tenure in the Middle East is that the great majority of the cultivators, estimated at 70 percent, work on the land as tenants, sharecroppers, or laborers of one sort or another. The real owners are the tribal chiefs and other big landlords, some of whom are city dwellers.

For centuries, the raising of livestock and the cultivation of land have been practiced in this ancient part of the world, until a deep-rooted and stable system of agriculture has been developed. An outstanding feature of this system is that its various activities are organically related to other aspects of community life. Another feature is that ancient methods and techniques of cultivation have persisted through thousands of years and are holding their own in the face of challenging modern technology. The heavy hand of the past is much in evidence here. Some of these practices, however, are excellently adapted to the requirements of the local situation.

The main activities and products that characterize the agriculture of the region are:

1. *Animal husbandry*, which has always been a cornerstone in the economy of the Middle East and is undertaken mostly by nomadic and partly settled tribes. Sheep and goats are by far the principal animals, followed in importance by cattle, water buffaloes (especially in Egypt and Iraq), asses, camels, and horses.

2. *Grains*, which are produced on an extensive scale, and consist mainly of wheat, barley, corn, grain sorghum, rice, beans, lentils, fenugreek, and chickpeas.

3. *Vegetables*, which are abundant, but mostly in the neighborhood of cities and other places where irrigation is possible.

4. *Fruits*, which are rather plentiful, with oranges, grapes, figs, apricots, melons, dates, guavas, and mangoes (in Egypt) leading.

5. *Cash crops* are also an important item in the agriculture of the region. The famous Egyptian cotton occupies the top place in this class. Of similar importance in the rest of the region are citrus fruits in Palestine, dates in Iraq, and various dried fruits and nuts in Iran.

6. *Vegetable oils* are produced abundantly from olives and from the seeds of cotton, sesame, sunflower, flax, and others.

Finally, it must be remembered that practically all agricultural production in this dry region is conditioned by man's unceasing effort to harness flowing rivers, streams, and underground water for irrigation, and to conserve whatever scanty moisture there is in the soil.

Family life constitutes another main pillar in the village culture of the Middle East. Unlike the pattern prevailing in western society, the biological family consisting of husband and wife is not the primary functional unit in most localities. The joint family—a more inclusive unit—predominates and consists normally of three generations. They usually live together in a compound and stand as one social and economic unit. A strong sense of loyalty is manifested by the respective members to the family group. A still more comprehensive unit is the kinship group, consisting of all who claim descent from the same paternal ancestor. Normally a village consists of a few kinship groups each of which is divided into several joint families.

As regards participation in community life, the rural family of the Middle East, with the exception of the small Christian minority, manifests a dual personality. Although no actual veiling is practiced, segregation of the two sexes is the rule. The woman's realm is mainly inside the home, but in addition she toils in the fields. Normally she does not participate openly in community affairs, this being man's prerogative. Frequently, however, she exerts considerable influence indirectly from within her narrow circle.

As the peasant is born into a traditional agricultural system and into the bosom of a family group, he is also born a member of the village religious institution. His membership is taken for granted, is never questioned, and is expected to continue as long as he lives. He may not be well versed in the dogmas of his religious institution, but he subscribes readily to the many rules of behavior it has inspired in social, legal, and economic relationships.

Another outstanding feature of religion in this part of the world is that it is a genuine local community institution. The religious leader (imam for Moslems and priest for Christians) is normally one of the village people, who does some farming on the side. He is expected to live with them to the end of his days. Furthermore, the place of worship, a mosque or a church, serves as a dynamic social center in the life of the community. Here the people celebrate their religious feasts and indulge in social intercourse. Here, also, they meet to discuss serious community problems, including local and sometimes national politics.

In addition to being a farmer by occupation and a member of a family and of a religious organization, the village dweller is also highly conscious of his community identity. He feels that he belongs to an entity that is more inclusive than his family group and has its own sphere of influence. Almost invariably he finds that strangers establish his identity primarily through the question, "From what village do you come?" In a variety of important situations, such as intervillage quarrels, funerals, festivals, and sometimes even methods of cultivation and land tenure, the community acts as one unit and its decisions are obeyed.

Leadership within the community is a recognized aspect of its organization. Normally each kinship group has a general leader in the person of one of its outstanding elders. He acts as the spokesman, counselor, and man of action for his group in situations involving serious decisions and relationships with outsiders. The leaders of the various kinship groups act as an informal or formal council which speaks and acts for the community as a whole when the occasion demands. In Iraq these councils are formally organized on three levels—county, district, and province. With or without such a council, practically each community has an official head who acts as the liaison officer between the local group and the Government. Sometimes he is elected by the people, as the tribal sheikh and the mukhtar in Syria and Lebanon, or partly appointed by the Government as the mukhtar in Palestine and the omda in Egypt. He is always a member of the group, and in general one of its leaders. When he is a tribal sheikh his powers are extensive, and in some cases absolute. As mukhtar or omda he serves as a sheriff with limited powers and helps the local government agents in carrying out their duties. When he is liked and respected

by his community, his home becomes a meeting place where views are exchanged and local public opinion is formulated.

Formal recreational activities, such as organized athletic games, moving pictures, roadhouse entertainment, and social clubs, are extremely limited in the greater part of the rural Middle East (Lebanon being an outstanding exception). Village life, however, is not altogether dull drudgery. Informal recreation is plentiful, and its spirit is manifested clearly in connection with religious festivals, interfamily fights, harvesting of crops, funerals, weddings, christenings, and gatherings at the mosque or church after the regular weekly service. During the weekly or biweekly markets that are held in various central villages, the people have a chance to visit and exchange views on local matters. Finally, the important coffee-house institution is especially well established in Egypt. There the village men gather at the end of the day's work to sip coffee or tea, smoke the water pipe, or play table games. During such informal, voluntary gatherings, the people have a chance to visit, gossip, and discuss community affairs.

Land and agriculture, family, religion, and village community, these are the main pillars upon which the edifice of rural culture in the Middle East has been erected. From each one of them, in interaction and integration with the others, has evolved a way of life in which certain values are particularly emphasized. Some of the main ones among them are generosity and hospitality, daring and personal prowess, reverence for age, exaltation of leadership, the personal touch in human relations, a leisurely attitude toward life, mutual aid, and emotionalism.

Extension in the Middle East

The Need

The ancient rural culture of the Middle East is in process of significant change. During the past 50 years, intensive contact between the Middle East and the West has been taking place, with western culture playing the role of the invader. Returned emigrants (mainly in Syria and Lebanon), the spirit of nationalism, mechanical devices of all sorts (especially agricultural machinery), political ideologies, educational institutions, trade activities, and a rising standard of living have been the principal factors involved in this process of social change.

Under the impact of the present war, the influence of the western way of life upon the local culture has increased tremendously. The horizon of the village is being widened, the needs of its life are multiplying, its folkways and mores are being challenged, and its traditional self-sufficient economy is no longer adequate. All this has given rise to an urgent need for a rural extension system through which adequate adjustments can be achieved.

At the same time intelligent extension is needed, to guide the village community in the solution of several major problems common to most or all of the countries considered. Foremost among these is land tenure. The prevailing systems of land ownership, distribution, inheritance, and division are not conducive to best use of the soil. In many localities a state of chaos prevails, with people not knowing exactly the amount and category of land they own. In others the inefficient *mesha'* system, previously described, is practiced. Furthermore, in each of the countries considered, big landlords own the great majority

of the land which is cultivated by the masses of tenants or share croppers. These workers can barely make a living and possess no incentive for improving the soil they do not own. The intelligent landlord cannot fail to realize that improved conditions of his tenants will pay greater dividends in the long run, both to himself and to the country as a whole. On the other hand, division of the small owner's land through generations of inheritance has gone so far that a typical farmer is left with some 10 or 15 acres scattered in small fragments all around the village proper. Efficient farming is not possible in such situations.

In addition to land tenure, several specific agricultural problems demand solution. Outstanding among these are control of pests and diseases, development of marketing facilities, improvement of seed and breed, production for food versus production for cash, improvement of outmoded cultivation methods and, possibly most important of all, development of projects and techniques by which water resources and soil could be conserved, irrigation extended, and vast denuded areas reforested.

Another major problem is the notoriously low income of the peasant and his consequent state of indebtedness. In many villages the situation seems hopeless. Exorbitant rates of interest are paid, amounting to 30, 50, and 100 percent, and the peasant sees no way out.

The diet of the great majority of the cultivators is inadequate. They are undernourished, living mostly on bread, cereals, and beans. Some fruits and vegetables are eaten in season. Consumption of dairy products is limited. The average per capita consumption of meat ranges from 10 to 20 pounds a year.

Closely linked with the inadequate diet is the prevalence of bad health conditions. Such diseases as trachoma, bilharziasis, hookworm, rickets, and pellagra are widespread. Medical aid is still extremely limited in villages. Knowledge concerning the causes and prevention of disease among village people is meager. Infant mortality reaches 20, 30, and 40 percent of live births in many areas, and continues at a relatively high rate in the succeeding early years of childhood.

Illiteracy is widespread and a keenly felt problem. Not more than 10 to 15 percent of the village and tribal people know how to read or write. Furthermore, those few who finish at the village school tend to migrate to the city for jobs.

The village woman is segregated and kept in the background. The narrow existence she leads has already been described. No stable progress in the rural life of the area can be achieved so long as the scope of life for the female half of the population is thus limited. It must be emphasized, however, that the village woman plays an important role in agricultural production. She applies herself diligently to many field activities in crop cultivation and livestock raising.

Feuds and factions constitute the outstanding social evil of village life in some places and among the tribes in others. Waste of effort, destruction of property, and needless litigation are the result. The usual methods employed in solving this problem—fines, imprisonment, or temporary reconciliation—have in general failed to touch the underlying source of the trouble. This is the need of the people for a wider village horizon, within which the firmly established tradition of family and community will assume a more productive and constructive orientation.

The tribes constitute a major problem in at least four of the countries under consideration. The national governments are anxious to have these tribes settle down and take to agriculture. They contend that nomadism implies a constant danger to public security and that government laws relating to taxation, military service, and the like cannot be applied satisfactorily to these migratory groups. On the other hand, any settlement project is doomed to failure if it does not take into account the various complicating factors such as the demoralizing effect of sedentary life upon the nomad, sanitary precautions, disruption of the national livestock economy, possible emergence of a feudal relationship between the settled tribal chief and his people, and the laborious education of the nomad in agricultural activity.

Such are the conditions from which the peasant in the Middle East has suffered for generations. It is no wonder, therefore, that he has developed an attitude of fatalism toward life and of suspicion toward outside authorities and a feeling of hopelessness about improving his lot. Yet in many well-observed instances in recent years, when an enlightened local government agency or a patriotic group offered him guidance and help in such matters as literacy, cooperatives, sanitation, and agricultural improvement, he has shown himself to be intelligent and understanding and an enthusiastic cooperator. Here is a challenging demand indeed for the development of a bona fide extension system within each of the Middle Eastern countries.

Experiences in the Region

Extension work, in its modern form and orientation, is still in the formative stage in this part of the world. Yet there are unmistakable indications that the various national governments and intellectual leaders have become increasingly conscious of the need in recent years and have embarked upon action programs to improve the lot of their peasant masses. Some of these countries, notably Egypt, Palestine, and Iraq, have already taken firm steps in this direction. But the distance to be covered is great, and the road is rough.

In making a general appraisal of the situation as related directly or indirectly to extension work in the region as a whole, the following common features are observed. In each of the countries considered, a central department or ministry of agriculture has the usual types of administrative and technical officials. Normally the duty of these employees is not to reach the cultivator directly, but rather to handle agricultural matters on a national scale. Many of them either have had little experience in village life or have long lost contact with it.

Attached to each department or ministry are a few or several experiment stations, with qualified technical staff. At these stations scientific research is carried on, and attempts at the improvement of livestock and crops are made. The quality of their work and the degree to which they render actual service to the cultivator differ greatly from country to country and from locality to locality.

Similarly, we find in each country a certain number of agricultural agents or inspectors who work in the field. These are the functionaries who constitute the most vital link in the chain of relationships between the distant cultivator on his land and the central organization. Unfortunately, their number is still small, and at the same time their effort is taken up so much by the routine duties of making surveys,

evaluating crops for taxation, and submitting reports that they actually can do very little for the cultivator.

Agricultural literature, of a technical or a popular nature, is available to a limited degree. Because of the high rate of illiteracy prevailing in villages, few among the peasants receive direct benefit from such literature. However, those few who can read tend to pass on the information to others by word of mouth.

Agricultural-school education is extremely meager in relation to the needs of the region. Iran, with a population of 15 million, has only one agricultural school, with an enrollment of about 50 students. Also Iraq and Syria have but one such school each. In Palestine there is one for the Arabs, but several (including a college of agriculture) for the Jews. Lebanon has none. The situation in Egypt is relatively better; there are four intermediate schools and two colleges of agriculture; the total enrollment was about 2,000 students in 1940. In addition to these purely agricultural institutions, elementary schools have added some agricultural instruction to their curriculums in recent years. Aside from the problem of limited numbers of agricultural students, these students have upon graduation tended to seek "white-collar" jobs in urban centers, rather than to go back to work on their farms.

With respect to the important field of home economics, little or no work has been done by the various governments of the Middle East. A beginning has been made by two or three private agencies.

Regarding the prevailing systems of school education, in as far as it can serve as a medium through which extension work can be effected, two general observations can be made: (1) The number of elementary schools is extremely small in relation to the number of school-age children. Only in Egypt has a law of compulsory elementary education been passed, but facilities are still inadequate to make the law very effective. Iraq is moving steadily in that direction. In other words, the problem of illiteracy, which is a serious obstacle to effective extension, has to be contended with for many years to come. (2) The village school curriculum in general has been inspired and influenced mainly by city-school standards. Little attention has been paid to the life conditions and problems of the village community.

So far the Committee has discussed the general features of extension experience that are more or less common to the region as a whole. An attempt will be made now to present in brief the specific achievements in this field of the individual countries concerned.

1. *Egypt*.—In view of the size of its population and the relatively early date at which it began its organized agricultural work, Egypt may well be considered first. As early as the middle of the last century the famous Mehamet Ali embarked upon a comprehensive program of agricultural improvement. He also started the first school of agriculture in Egypt. In 1898 the experimental farm at Giza was established. Since then several other such farms and a few schools of agriculture have been added. In 1910 a Department of Agriculture was created, which became a ministry in 1913. Since then its various sections have undertaken valuable scientific research and introduced important practical improvements in connection with the application of chemical fertilizer, cottonseed selection, control of pests and diseases, animal husbandry, and fruit and vegetable culture. Also students have been selected and sent abroad to specialize in agriculture. Just before the

outbreak of the war about 150 such students were in Europe and the United States.

At present the Ministry of Agriculture has a special section for extension, whose function is to put available agricultural knowledge in the hands of the cultivators. Its work consists mainly of (a) the preparation of agricultural literature, (b) popularization of agricultural knowledge through lectures, posters, moving pictures, and the radio, and (c) supplying specific information to all those who seek it at the ministry.

Recently a daring and comprehensive program of agricultural extension has been worked out and will be launched in the near future. Its ultimate goal is to establish for every 15,000 acres of cultivated area an agricultural center consisting of two units, general and veterinary. Each will be run by a qualified expert and several assistants, who will reside at the center. Improvement in crops and livestock will be effected through the following subunits: (a) General demonstration farm, (b) fruit and vegetable nursery, (c) plant for agricultural industries, (d) stud farm, (e) poultry farm, (f) veterinary hospital, (g) slaughterhouse. Cooperation between the center staff and the local people will be assured by the organization of an agricultural council representing the cultivators of the various villages concerned, which will share in the responsibility for the policy of the center.

A similar extension program, aiming at rural improvement from another angle, has been initiated by the Ministry of Social Affairs. A special fellah bureau has been created recently within this ministry. It aims at the establishment of rural welfare centers in various sections of the country. So far (within 2 years) 10 such centers have been organized, each serving some 10,000 people and consisting of the following units: (a) Social work center, through which general improvement in the conditions of village life is attempted; (b) general clinic; (c) mother and child welfare center. The three qualified officials in charge of the three units reside at the center.

The guiding principles of the whole program are that: (a) Improvement should be started simultaneously in the various aspects of village life; (b) projects should be undertaken in cooperation with the village people, who should share responsibility and expenses with the Government; (c) improvement should be gradual, attempted first on a simple, practical scale.

The Ministry of Finance also is responsible for an important extension activity. Through its Cooperative Section it sponsors the development of agricultural cooperatives in the villages. The movement began as early as 1908, but not until 1923 was a law passed making cooperative societies legal. At present the Government acts as supervisor and guide through the Higher Cooperative Council and through the staff of the Cooperative Section. The most important function of the cooperatives is the extension of credit to the cultivator at a reasonable rate of interest. A promising aspect of the movement is that the law requires each society to set aside at least 4 percent of its profits to be used for general community welfare. The movement has grown from 139 societies and 10,673 members in 1925 to about 1,200 societies and over 100,000 members in 1944.

Extension work along purely health lines has been undertaken by the Ministry of Public Health. In addition to regular curative medical

services rendered by hospitals, dispensaries, and mobile clinics, more attention has been paid recently to the educational and preventive approach. Moving pictures, lectures, and literature dealing with various aspects of health are now designed for use in villages. In 1943 a law was passed providing for the establishment of rural health centers. Each center is to serve some 15,000 people through a comprehensive program aiming at raising the standard of public health in the village.

In the field of education, some important changes are being introduced that will make the present village school system more effective as a medium for extension. Compulsory attendance has been increased from 5 to 7 years, and the curriculum has been so modified as to include agricultural subjects, village industries, and other items directly related to community needs. Already 160 schools have such a modified program. At the same time literacy work among adults, begun several years ago, will be carried on more intensively.

In addition to the work undertaken by various government agencies, important contributions in the field of extension have been made by some private organizations, especially the Royal Agricultural Society, the Egyptian Association for Social Studies, and the American University of Cairo. The Royal Agricultural Society has been in existence since 1898 and has introduced valuable agricultural improvements among the cultivators. Recently it has become interested in projects aiming at general village reconstruction. The other agencies have made valuable studies of village life, initiated lines of action, and succeeded in arousing public opinion for rural reform.

2. *Palestine*.—Especially in recent years, Palestine also has succeeded in putting its agricultural system on a sound basis and in rendering valuable services to the cultivators through a number of well-organized experiment stations and other government agencies and through private agencies. Its outstanding contribution in the field of extension among Arab peasants,¹¹ however, has been made through an interesting and successful experiment in village schools. The project was initiated cooperatively by the Near East Foundation of New York, the American University of Beirut, and the Palestine Department of Education. The first step consisted of selecting yearly some 15 village school teachers and training them for a year in practical agriculture and rural welfare at the government agricultural school. This selection and training continued until over 100 such teachers were qualified. Later, direct appointments were made from among the students of the agricultural school.

The second step consisted of application and follow-up work in the village. Each of the trained teachers went back to his old school or to a new rural one, and endeavored to accomplish two things, introduce agricultural subjects into the curriculum and establish a school garden. An inspector of school gardens and assistants were appointed to guide and supervise the field work. Within 3 or 4 years practically all of the teachers concerned were able to attain their goal. Agricultural instruction was allowed a respectable place in the curriculum, and school gardens flourished. Students worked in them, and farmers began to come for guidance and to copy from the demonstrational plots. The land for almost all of the gardens was donated by the

¹¹ No attempt is here made to describe and evaluate a well-developed extension program that has been in operation among Jewish settlements.

people. Thus from the beginning, cooperation between the community and the school was assured.

After a few years' experience, a more comprehensive goal was adopted—to make of each village school a dynamic center for the improvement of community life in its various aspects. Several villages in various parts of the country were selected as model centers. Work in them was done through the cooperative effort of the district officer, medical officer, agricultural inspector, inspector of education, inspector of school gardens, school teachers, and local people. This experiment in extension through the community school seems destined to play an important role in rural reconstruction in the Middle East.

Perhaps of equal importance in this respect is the recently organized movement of credit cooperative societies in the Arab villages. In 1933 an ordinance was passed putting the establishment of cooperatives on a firm legal basis. Since that year the movement has grown continuously, until in 1942 there were 115 societies, with a membership of over 4,000. Their general aims are to supply the peasant with short-term credit at reasonable rates, help him to liquidate his debts, educate him in thrift, and interest him in community welfare. Like the school, the cooperative seems destined to play an important role in the uplift of village life.

3. *Lebanon and Syria*.—A pioneer experiment in extension work has been successfully undertaken in Lebanon and Syria by a private agency, the Institute of Rural Life at the American University of Beirut, with the support of the Near East Foundation of New York. Its first entry into the field was made in 1931 through the establishment of a practical farm school in the heart of a rural section of Lebanon. Farm boys from various villages went there for a 6-month course in practical agriculture, after which they went back to work on their land. The school maintained contact with them through follow-up visits. For various reasons this phase had to come to an end after some 75 students had been trained.

A shift in approach was then made. Work was concentrated on these boys on their farms and on the villages where they lived. That was real agricultural extension, carrying to the peasant, in his own local surroundings and in his language, knowledge of the use of selected seed, improved livestock breeds, and better methods of cultivation. The response of farmers was so enthusiastic to this unprecedented type of work that the institute was encouraged to conduct a series of short agricultural courses for adult farmers. Later on, the institute supplemented its field work by the publication and distribution of bulletins, written in simple Arabic, dealing with various agricultural topics or problems.

An attempt at the solution of the serious problem of the absentee landlord was made through the organization of a 2-year course in farm management for the sons of wealthy landowners. A balanced program of theory and practice is maintained in the course, and local agricultural problems are emphasized. At the same time, various aspects of the serious problem of tenancy with which the students are concerned personally are analyzed and discussed. The course is expected ultimately to achieve the following results: Induce wealthy heirs to stay on their estates; equip them for better farm management, including amelioration of their tenants' conditions; and give them a sound orientation in their own agricultural background before they

travel abroad for higher training. It is also hoped that the Government will select from among them its future extension agents.

The institute also pioneered in the field of agricultural cooperation. So far it has concentrated its effort mainly on one village in Lebanon, where it has helped the people to organize and develop a successful and promising marketing cooperative. At present, after 4 or 5 years of careful education and demonstration, most of the villagers are members of the society. Their agricultural outlook has become more progressive. Their efficient and trustworthy cooperative techniques of crop selection, grading, and marketing have brought them higher prices and made a strong and favorable impression on other villages and on city merchants. More recently, three or four other societies have been started. At the same time the Governments of Lebanon and Syria have passed laws providing for the development of cooperatives on a large scale. However, no action in this direction has yet been taken.

Working on the basis of the principle that agriculture and health are two interdependent essentials of community life, the institute launched a comprehensive health program among the villagers. In cooperation with local authorities, it has conducted curative and preventive campaigns in child welfare, inoculation against epidemics, building of latrines, trachoma treatment, and mosquito and fly control. Its trained nurses have also visited village homes and done essential home welfare work with the neglected and segregated peasant woman.

With the support and guidance of the Institute of Rural Life a volunteer movement, called the Village Welfare Service, made up of the educated youth of Lebanon, Palestine, and Syria, has developed within the last 10 years. This service was started by some of the students and faculty of the American University of Beirut in response to a consciousness of the deplorable conditions existing in the villages of those countries. After a preliminary survey of the situation and a short training conference, three mobile welfare teams set to work in various rural areas. More experience was gained and more volunteers responded to the call. The following year the work was concentrated mainly at a permanent camp, from which volunteers served two or three surrounding villages. The camp consisted of five units, each under the guidance of an expert in agriculture, health, literacy, recreation, and the home. The emphasis was primarily educative, and the active cooperation of local people was sought in each project undertaken.

Within a few years the movement spread rapidly among educated youth in various parts of the area. Several permanent camps were organized, and hundreds of young men and women in various intellectual and technical professions gave their services free for a few weeks or a few months at a time. For the first time the educated effendi and the illiterate fellah met and understood each other. Also for the first time, the educated Moslem girl took off her veil and worked side by side with men toward the uplift of village life.

4. *Iraq*.—Since embarking upon its young and vigorous national career, Iraq has realized that its progress depends primarily upon agricultural development. More recently its intellectual leaders have begun to see that such development cannot bear permanent fruit unless the prevailing conditions of life among the peasant masses are improved. After a few years of initial experience and readjustment, the

Department of Agriculture began the formulation of a long-term policy in the light of the following factors: Outmoded agricultural methods to which the cultivators adhere firmly; high rate of illiteracy; low economic capacity and low standard of living among the farmers; inadequate system of land tenure; need for extensive irrigation projects; settlement of the nomadic tribes; and lack of trained personnel to carry on extension work.

Therefore, the following broad outline of policy has been adopted:

a. Development of the Department of Agriculture is to be gradual, keeping pace with the increase in trained personnel, the expansion in cultivated areas and in crops, and general socioeconomic changes.

b. Agricultural research and application of its results must be directed first toward the solution of immediate, urgent problems.

c. Consequently, establishment of experiment stations in each province to perform the following general functions: (1) To act as training centers for skilled agricultural labor; (2) to conduct experiments and demonstrations that are suited to local conditions and result in immediate improvements; (3) to act as propagation and distribution centers for improved seed; and (4) to emphasize the idea of diversification of crops.

d. Conformity in agricultural production and policy to the framework of world economy.

At present there are five experiment stations performing the aforementioned functions, distributed as follows: Two at Baghdad (a general, central station and one for horticulture), one at Kirkuk, one at Sulaimaniya, and one at Mosul (all three in the northern half of the country).

Centrally, extension work all over the country is directed by two supplementary sections in the Department of Agriculture, (a) Extension and Demonstration and (b) Plant Protection. Each of these maintains some field agents in various parts of the country. Their number is increasing rapidly, as more trained personnel becomes available. The goal is to have enough agents to serve every county.

The general functions of the Section of Extension and Demonstration are to: (a) Gather from the various experiment stations up-to-date agricultural ideas and practices that have been proved successful and disseminate them among the cultivators. This is done by means of oral instruction, leaflets written in simple Arabic, radio talks, and, most important of all, field demonstrations; (b) undertake the general inspection of farms, including reporting on crop conditions, estimating yields, checking on areas assigned to various crops; (c) distribute to farmers improved seeds, seedlings, cuttings, and shoots.

In recent years the Government has given serious attention to agricultural education. An increasing number of students have been sent abroad yearly to specialize in various branches of agriculture. An agricultural school has been functioning for several years. It trains students to become junior agricultural officials or to work on their farms. There is also a school for rural teachers, whose training includes agricultural theory and practice. When assigned to the field, the teachers carry on some extension work through their schools. The policy of agricultural education is formulated by a joint committee representing the Department of Agriculture and the Ministry of Education.

A large number of important plans and projects have been worked out for realization immediately after the war. Among them the following have a direct bearing upon extension work: (a) Expansion in the number of experiment stations and of station areas; (b) expansion

of agricultural education in village schools; (c) creation of several new sections or branches within or outside the Department of Agriculture, among them one dealing with rural education and another with agricultural cooperatives; (d) establishment of practical farm schools at the various experiment stations; (e) organization of practical courses for training in mechanized agriculture.

5. *Iran*.—Extension work in Iran is still in its primary stages. However, within the last 10 or 15 years the national Government has become increasingly conscious of the need for agricultural improvement and has embarked upon action programs in that direction. More students have been sent abroad for training, and a large number of qualified persons have been engaged to supervise various rehabilitation projects.

Governmental agricultural organization is shared by two ministries, Agriculture and Finance. Within the Ministry of Agriculture are the usual two main branches, administrative and technical. Agricultural training, research, and improvement are undertaken by the technical branch. Its work is done through the following sections:

a. Agricultural instruction.—Only one school near Tehran teaches advanced agriculture. The course consists of 2 years of classroom work and 1 of practice and specialization. Board and lodging are paid for by the Government. The school is well equipped, but its capacity is limited to 50 students. Also the agricultural instruction section undertakes the publication of various types of agricultural literature for public use.

b. Agronomy.—Because of the unusually heavy dependence of the country upon field crops, the work of the agronomy section has been relatively more advanced. It maintains field stations and agents in various parts of the country. Through demonstration they introduce among the peasants new methods of cultivation. They also supervise the distribution of selected seed.

c. Animal husbandry.—An animal husbandry station is maintained at the agricultural school near Tehran. It has modern barns for cattle, sheep, and goats, and well-equipped laboratories for veterinary science and wool research. Improvement in livestock and wool is made by means of selection within native breeds and by crossing with foreign breeds. Improved rams are sent to local stations in various provinces, where field agents use them to improve local flocks.

d. Veterinary service.—Two veterinary schools in Tehran are run by the veterinary service—secondary and superior. It also has field workers who render various services to the peasants.

e. Other sections.—The technical branch has various other sections and offices that do research work and render specified services to the people in connection with crops and livestock.

Suggestions for Making Extension More Effective

General Principles

Certain general concepts and principles in the field of extension seem to apply to any culture, including that of the Middle East. These may be summarized as follows:

1. *Aim and meaning*.—The general aim and meaning of extension as an educational process can best be grasped by stating what it actually attempts to do. Extension endeavors to make available to rural people the fruits of scientific knowledge, with a view to bringing about more satisfying family and community life. It does this by creating within the individual the urge to achieve this goal and by showing him the way to do so. This entails such practical achievements as improved health, increased income, and more creative use of leisure time.

2. *The extension worker*.—The ideal extension worker possesses several essential qualities. Of course, the person who has all these

qualities is rare indeed. However, the more of them he possesses, the greater the likelihood of his success. Some of these qualities are:

a. Living experience and real understanding of the culture—the way of life—where he is to serve, be it a community, a country, or a region.

b. Action from a wider perspective.—Thorough identification with the local culture only might result in narrow vision, distortion of judgment, and mistaken notions of what constitutes rural progress. The corrective for this tendency is that the extension worker should keep in constant touch with outside situations and forces which shed more light on his local situation and give fuller meaning to it.

c. Adequate professional training.—This is an obvious qualification for any profession, but outlining it in the present case seems essential. This is necessary because of the still prevailing belief that extension is an activity anyone can undertake in connection with his specialized field of training. To be sure, an extension worker is an expert in a certain field, but he is more than that. His training should prepare him to be a community organizer, an adult educator, and a student of human behavior in general.

d. Willingness to learn from those he is supposed to teach.—This involves an attitude of scientific modesty, a genuine feeling that one cannot possibly know all about every subject or field. No matter how backward a rural community may be, or how great the gap that separates it from modern scientific knowledge, it may still have something to teach the modest and wise extension expert.

e. Willingness to keep in the background.—An ideal worker does not let his ego get the better of him. He does not seek satisfaction by proclaiming himself or having others proclaim him the leader or the prime mover, but rather by seeing the work he undertakes come to a successful end. In helping others to accomplish their purposes, he counsels and does not try to dominate; he works with people and not for them.

f. Possession of an integrated philosophy of life.—This involves at least three essential elements: (1) A belief in the fundamental dignity and worth of a human being as an individual and as an end in himself, with any extension project looked upon only as a means to an end; (2) genuine interest in his work; (3) a message to give and faith in its being worth while.

3. *Where and with whom does extension work begin?*—An attempt by the field worker to answer this question may be taken as the first step in his program. The following are some guiding principles:

a. If possible, the initial project or projects should involve the whole community. This would insure stronger and wider support and eliminate possible friction and misunderstanding.

b. If the foregoing approach does not seem feasible, a beginning should then be made with those individuals and groups willing to cooperate and possessing prestige.

c. The community or locality chosen should be one that is best qualified for demonstrational purposes. It should be centrally located and fairly represent the prevailing conditions and problems.

d. Other things being equal, the program should be started in those communities or with those groups that are more tolerant of receiving strangers and accepting new techniques.

4. *Thorough acquaintance with the local situation.*—This may be undertaken as the first or second step, depending upon how much the worker already knows about the locality:

a. This entails a general knowledge of the culture, with its main pillars or foundations and values. Such knowledge serves as a general background upon which the field worker can draw as the occasion demands.

b. The worker should make a study of the socioeconomic organization of the particular community or locality concerned, which has its own character and distinguishing features. Furthermore, within the community each group or institution has its particular historical background, which is influential in its present organization and in the behavior of its members. In a word, no changes should be started by the extension worker unless they are supported by a thorough knowledge of the community way of life, and until their full implications have been appraised.

5. *What projects should be undertaken?*—No categorical answer to this question can be made. One has to appraise the total situation and decide each case on its merits. With this qualification in mind, one may attempt a few generalizations:

a. Quicker and more permanent results might be expected if the program is started with projects that meet the felt needs or problems of the community. Active local support is likely to be given such projects and permanent interest in them maintained.

b. Another answer is that the program should begin with the more simple projects that can be finished in a relatively short time and show tangible results.

c. Or, projects that involve the whole community have a better chance of success and make a more auspicious beginning for an extension program than those that concern one or only a few persons.

6. *Specific educational techniques for carrying out projects:*

a. The project should be preceded by a preliminary educational campaign. This may not be necessary when the people are aware of the problem and feel the need for a solution. Frequently, however, the worker, not the people, sees the difficulty.

b. The worker should get the cooperation of as many people as possible before they go on record as opposed to the suggested line of action. Almost invariably some individuals in each community wait for a chance to express themselves negatively, especially when they are not consulted about a matter.

c. Another essential method is to make use of existing village organizations instead of attempting to create new ones. This means that the extension program should be formulated on the basis of what the people already know and have, and take into consideration their limited resources and their special techniques and practices. The promoter of an idea or line of action is naturally inclined to use his own background rather than the local situation as a base of operation.

d. Utilization of local leadership is another point the field worker should keep in mind. Each community has its own recognized leaders. Much better results can be obtained if projects are undertaken with the consent and support of these leaders. They know better than an outsider how to work with their people, and their people trust them generally.

e. Finally, let the enthusiastic extension agent not forget that his ideal goal is "of the people, by the people, for the people." He should remember that he is an outsider to the community and tomorrow he may not be working in it. Consequently, he should be constantly on his guard against the common and tempting pitfall of building the program around himself as an indispensable center.

Specific Suggestions for the Middle East

So far we have tried to give a definition of extension in general and present its broad principles and techniques, together with the essential qualities of the extension worker. We shall now attempt to make some suggestions that are specifically applicable to the Middle East.

Organization

1. The first essential step is the establishment of a central governmental agency to take charge of extension work in the country. This has already been accomplished, to a greater or lesser extent, by most of the Middle East countries. However, there is urgent need for having each such agency so integrated as to supervise any extension work undertaken by the various government ministries, departments, or offices. Through this centralization and integration, all government agents working in the rural field—teachers, agricultural experts, health officers—could be organized into one unit with a view to working together toward the fulfillment of a unified program in the village.

2. A major place in the central extension agency should be given to home demonstration work. The reasons that make this aspect of exten-

sion especially urgent and important in the Middle East have been discussed previously. At present there is no bona fide home economics unit in any of the countries considered.

3. A special unit should be set up within the central extension organization to deal with tribes that are in the process of settlement. This problem is of special importance in Iraq and Iran. Experience in both countries has shown that the problem cannot be solved simply by enacting laws of settlement and by making land grants. Other factors that should be taken into consideration have already been discussed. On the other hand, it may be deemed in the best interests of the country, for economic and biological reasons, that a core of tribal life should be maintained. In that event, the central extension agency will have to adjust its educative program accordingly.

4. In addition to cooperating in general with various government agencies working in the rural field, the central extension agency should work closely with two young but promising institutions in the Middle East—the village school and the village cooperative. Both of these, as they become better organized and more widespread, will play a major role in the rural development of the region.

5. The organizational policy should be such as to allow extension the wide scope of solving, primarily through educative techniques, all problems that beset rural life. This it may do independently through its field personnel or in cooperation with other agencies. In either case extension should be conscious of the totality of the rural problem and should formulate its action program accordingly.

Personnel

In addition to the general qualities considered essential to the extension worker, the following suggestions seem pertinent:

1. The need of the field is great, and the number of workers is extremely limited. A much more generous portion of the budget should be allotted to provide more workers.

2. Bona fide experience in village life and sympathy with its problems should be made a prerequisite for training or employment.

3. More adequate and continuous professional training should be provided for workers.

4. Whenever possible, training abroad should be provided only after the worker has had field experience at home.

Techniques and Guideposts

The broad principles of extension have been discussed. Following are a few specific guideposts and techniques that apply to the Middle East:

1. The rural Middle East in general is a region in which the modern way of life has not yet been established. Consequently, extension work must be undertaken cautiously and slowly, being guided by the needs of the local culture and the ability of the people to absorb and integrate new ideas.

2. In general, actual work among the people should be undertaken by native personnel. Foreign experts, when needed, can help best through guiding and supervising in central organizations.

3. The goal of private agencies engaged in extension work should be to coordinate their effort with that of the central government, seeking its legal and financial support. Otherwise the scope of their work

would remain limited and the country would not benefit much from the fruit of their experience.

4. Perhaps the most effective technique that can be used to arouse village people for appropriate action is the emotional appeal. This is a delicate approach and should not be attempted unless one is thoroughly acquainted with local folkways and cultural values. Among such appeals or factors of motivation are (a) citations from the Koran and other sacred books, (b) high value set on personal, family, and community honor, (c) pride in the glorious ancestral past and emulation of it, (d) intervillage competition, and (e) patriotic sacrifice under the influence of the rising spirit of patriotism.

5. Because of the prevailing low rate of literacy among the peasant masses, extension work among them must depend primarily upon informal group discussion, demonstration, and visual presentation. The influence of the written word is limited indeed. For this purpose effective use could be made of the mosque or church as a meeting place, and the regular sermon could be oriented toward village uplift.

6. Because of the important role played by the village family as an economic and social unit, extension work must be aimed primarily at the family group rather than at the individual.

7. Finally, it has been observed that there is in the Middle East a great potential of volunteer workers. It consists mainly of the educated youth who have shown eagerness in recent years to expend their energy in constructive patriotic activity. They can be of tremendous help in a national extension program if they are intelligently organized and guided.

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Western Europe

Introduction

THE REGION designated in this report as western Europe includes France, Belgium, the Netherlands, and Switzerland. All four countries are among the world's wealthier nations. They are characterized by a well-developed industry, a relatively progressive agriculture, a democratic system of government, and a comparatively high level of education. In many respects, however, the differences between the four countries stand out more strongly than the similarities.

France, the largest country in Europe excluding Russia, covers somewhat more than five times as much territory as the Low Coun-

tries and Switzerland combined. Switzerland and France have the highest mountains wholly in Europe, while much of the Netherlands lies below sea level. Belgium and the Netherlands are the most densely populated countries of Europe, whereas Switzerland and France before the war ranked eighth and fourteenth, respectively. Belgium, the Netherlands, and Switzerland are prevailingly industrial countries, agriculture accounting for approximately one-fifth of the gainfully employed in 1930. In France, on the other hand, agriculture was still as important a source of employment as industry as late as 1931.

These and other differences in natural, economic, and social conditions are reflected in the agriculture of the four countries. Switzerland uses little more than half its area for agricultural purposes, and more than half of this consists of mountain pasture. Over six-tenths of Belgium and France, and over seven-tenths of the Netherlands are in agricultural use. Compared with Swiss, Belgian, and Dutch farms, French farms are fairly large. In Switzerland, especially, and in France, owner occupancy is the predominant form of tenure. In the Netherlands, tenancy is about as important as owner occupancy, and in Belgium tenancy prevails. Belgium and the Netherlands use more commercial fertilizer per unit of agricultural land than any other countries in Europe and much more than France or Switzerland uses. Grassland dairying is the leading agricultural enterprise in the Netherlands and Switzerland. In France, particularly, and in Belgium farming is less specialized. Before the war, only the Netherlands had a substantial export of agricultural products, chiefly dairy and pork, but this export was based partly on imported feedstuffs, and substantial quantities of foodstuffs were also imported. Food produced from domestic resources provided little more than two-thirds of Dutch food requirements in terms of calories. Belgium and Switzerland imported a considerably larger part of their food requirements than did the Netherlands. France came nearer to being self-sufficient in food than any of the other three countries.

France

Background

France presents a landscape of infinite variety—undulating pastures; large, flat arable plains; salt marshes; forests; vineyards; bare arid areas; extinct volcanoes; pine woods and sand dunes; the Savoy Alps and the semitropical Riviera along the blue waters of the Mediterranean. Extremes are found of mountain and plain, cold and heat, wealth and poverty, the modern and the old-fashioned, the beautiful and the ugly. This is a country with intense nationalism among the people, and yet there is great diversity in their origin and basic interests. "The traveler comes every 50 miles into a new country, with a new landscape, new people, new architecture, new habits and customs; each local 'country,' small, intimate, discreet, jealously individual, its secrets reserved to its own people."¹² Each son of France has two distinct loyalties, one to his country, and the other to the district and the village where he belongs.

France is a Catholic country, but religion does not have a hold on as large a segment of the people as in Belgium and the Netherlands.

¹² YATES, P. L. FOOD PRODUCTION IN WESTERN EUROPE; AN ECONOMIC SURVEY OF AGRICULTURE IN SIX COUNTRIES. 572 pp., illus. 1940. (See p. 243.)

Accordingly, religion does not play a large role in the economic life of France. Anticlericalism is prevalent.

A larger proportion of the population of France (35 percent) is engaged in agriculture than in either the Netherlands or in Belgium. In relation to the population, the commerce of France has not developed to the same extent as that of the Netherlands nor has French industry progressed as intensively as that of Belgium.

The farms of France are larger than those in the Low Countries, the typical French farm being from 25 to 125 acres. Although by number 62 percent of agricultural holdings are less than 25 acres, almost 80 percent of the farm acreage of France is represented by farms of 25 acres or more. The parceling of farms is so great, however, that a farm usually consists of a number of strips of land, scattered over a fairly wide area. This results in much waste motion for the farmer.

For the farmer to own his holding is much more common in France than in either Belgium or the Netherlands. In France, owners operate 75 percent of all agricultural holdings, by number; by area, 60 percent of all farm land in France is owner-operated.

Among the health problems of France, of particular importance are the water supply, including both the availability of sufficient safe water to meet the community's needs and the extension of good water-supply systems to rural homes; and sanitary toilet facilities.

Some communities have good water-supply systems, but in many others water has to be carried from the parish fountain. Laundry is done at riverside washhouses. There are no bathrooms. The sewing machine is the only machine in most French farm homes.

It is an anomaly that pasteurization is not so common in France, the country of Pasteur, as in the United States. Milk is almost always boiled by the consumer as a protection, but to many people boiled milk is not palatable, and this tends to reduce milk consumption. Milk is usually ladled out of open containers. Refrigerating facilities are seldom available.

Girls in France are taught to keep house by their mothers. At an early age they learn to sew, mend, and iron and to have responsibilities of child care while their mother does other work. The French peasant woman is overworked. She has charge of the poultry and the garden and the care of the milk. She shares also in other farm duties.

French farmhouses are well constructed but old. They do not have modern appliances and conveniences. In many homes the cooking is done in the fireplace. This is also the only place to heat water on many farms. Wood and coal are scarce. Electricity is available in most communities, but is used almost exclusively for lighting.

Agricultural Education and Extension

Whereas in Belgium and the Netherlands farmers' organizations have been formed largely along confessional lines, in France the national farm groups before the war were almost all political in character. Thus there were in Paris the Association des Cultivateurs de la France, the Confédération Nationale des Associations Agricoles, the Confédération Nationale Paysanne, and the Maison d'Agriculture, each of which was more or less closely affiliated with a political party. There are many local cooperative associations such as insurance societies, credit associations, milk-marketing groups, and the like. These local societies are mostly nonpolitical.

For decades the French Government has attempted to protect farmers against foreign competition by high tariffs. The result has been that agricultural prices in France have been much higher than those at world levels. For certain commodities such as wheat and wine, high tariffs did not provide the French farmer with sufficient protection against wide fluctuations in prices and heavy imports. As a result of producer pressure, the Government in the thirties found it necessary to institute price-support and production-control measures with respect to these commodities.

The pattern of agricultural education in France resembles that of Belgium and the Netherlands. The lowest grade may consist either of two winter courses of 4 months each or of winter classes continuing for as long as 4 years, given by the village schoolmaster for children who have just completed their elementary education. The farm schools, 42 in number, have a regular 3- or 4-year course for students in the 14 to 18 age group. The three agricultural colleges, located respectively at Grignan, Rennes, and Montpellier, are subordinate to the Institut Agronomique at Paris.

The agricultural schools of France are not largely attended. They exercise much less influence than those in the Low Countries. A criticism commonly made is that agricultural training is too academic. It is true, at any rate, that the graduates of the schools seldom return to the farm, but instead usually seek civil-service posts in the Government.

Extension work in France is definitely less well developed than in Belgium or the Netherlands.

The governmental system of extension work in France is known as the Agricultural Service. Each Department of France has a director of agricultural service and a few assistants—sometimes one or two, sometimes as many as five or six. The staff of the Service is seriously undermanned, however, as the average is more than 30,000 farms to a Department. Also, the director of the Service in each Department has many other duties besides extension work: Direction of agricultural education in the Department, advice to agricultural associations, supervision of veterinary assistance, inspection of seeds, fertilizers, and insecticides, and administration of state subsidy schemes.

Some extension work is carried on by nongovernmental groups. In Brittany, church groups are active. Farmers' unions are active throughout the country.

During the thirties, groups of sugar-beet and of wine growers organized into political-pressure groups to assure the adoption of favorable price-support measures. To some extent these and other producer groups began to be interested in improvement problems. Milk producers' associations undertook to investigate the transportation and pasteurization of milk. Just before the depression, a few proprietors of large farms in the northeastern part of the country got together and formed bookkeeping societies to analyze their businesses. But the whole enterprise was confined to a few hundred farms, and the work was so spotty that no generalizations could be made about its national aspect.

In the elementary schools, instruction in home economics is given by the regular teacher, and in secondary schools by a special teacher. Most of the subject matter in the secondary schools, such as food selection and nutrition, is theoretical in character. Besides the regular

school training, French girls also have the opportunity to attend special winter courses in homemaking. Then too, there are four normal schools and one college that specialize in home economics. In France, little adult education in the domestic sciences is available. The lack of such training is explained by the observation that French women are highly individualistic and ordinarily do not engage in group activities such as those of women's clubs.

Belgium

Background

The population of Belgium is divided into two well-defined groups that live and work together while retaining their distinctive characteristics, their contrasted habits and customs.

The Flemings are tall, fair, and large of limb; men of few words, extremely industrious, of a rather stolid disposition, and faithful adherents to the Catholic Church. The Walloons, on the other hand, are dark and short, as vivacious as the French, quick to learn, anxious to enjoy life.

These natural characteristics have been somewhat accentuated by the rapid industrialization of the Walloon area, whereas the Flemish remains more exclusively agricultural. The interpenetration of agriculture and industry is one of the distinctive features of Belgian economic life. Many industrial workers, including coal miners, workers in iron foundries, and railway employees, have small agricultural holdings which their wives or children cultivate or which they themselves work in their spare time. Often, too, the father works full time on the farm, while the sons work in factories, returning home each evening. This combination of industrial and agricultural work has the important advantage of giving the laborer a greater degree of economic stability.

Out of 8,300,000 inhabitants, Belgium has 3,750,285 gainfully employed. Of these, 635,032, or 16.9 percent, are engaged exclusively in farming. In addition, there are about 165,000 part-time agricultural workers. Operators of small and very small farms are of two types. The first, and probably the more important, consists of industrial workers who live in the country and commute to the city or town every day. The second is composed of operators of very small farms who must supplement their small income by working at certain times of the year as laborers on larger farms. Thus the operator in the second group is in turn proprietor and employee.

The main characteristics of Belgian agriculture are—

1. *Farm tenancy, which exceeds owner operation.* According to the last decennial census, that of 1930, 48 percent of the number of agricultural enterprises were operated by their owners, while 52 percent were operated by tenants. Of the cultivated surface of Belgium, 38 percent, or 1,906,000 hectares, belonged to those cultivating it. The rest, 62 percent, was leased out.

2. *Progressive reduction in the number of large and medium farms in favor of small and very small holdings.* From 1895 to 1930 the number of farms of less than 10 hectares increased from 794,939 to 1,090,108, while the number of farms of more than 10 hectares declined from 44,686 to 41,038. In the first group are 838,883 farms of less than 1 hectare, almost all of which must be considered to be merely family

gardens. In the second group, only 464 farms have more than 100 hectares. With certain rare exceptions, all farms are family enterprises.

3. *Very high crop yields.* Intensive farming is the rule in Belgium. Fertilizers are used to a much greater degree than in most other countries.

4. *Parceling of the land under cultivation.* The average farm worker has only 3 hectares. In the vicinity of large cities and in certain regions of ultraintensive cultivation, each worker has only half a hectare. The limiting factor on the agricultural production of the individual Belgian farmer and on his standard of living is the small size of his farm.

Health conditions are not so good in the country as in urban centers. Mortality is higher, especially infant mortality. Tuberculosis has declined less rapidly in rural villages. Cancer and influenza are more frequent. Perhaps rural residents are more subject to rheumatism and heart ailments, but exact figures are not available.

Although electricity has been brought to almost every village, other public utilities are practically nonexistent in the country. About 1,800 communities out of 2,672 lack water supply. Fire-protection services are entirely lacking. The efficacy of social work is in proportion to the density of population. The situation is improving, thanks to the action of mutual-benefit organizations, cooperatives, child-welfare activities, tuberculosis aid, women's organizations, and the radio.

The food inquiry of 1935 showed that the peasant did not eat as rationally nor was his diet as well-balanced as that of the city man. He did not consume enough protective foods (milk, butter, eggs, meat, vegetables, fruits) even though he produced them. Nine children out of ten had decayed teeth.

Agricultural Education and Extension

At the end of the last century the Belgian cultivator was on the verge of bankruptcy and, despite the large home market, the farmer could not find an outlet for his products. His soil was poor, his costs were high, and his methods were antiquated. He was either ignorant of technological and biological discoveries or too poor to take advantage of them, and he could not compete with the cheaper products of more newly developed and more fertile lands. Industry was flourishing in Belgium, but agriculture was declining.

For Belgian farmers, the change from general and almost hopeless depression to a high standard of intellectual achievement and relative prosperity is largely due to the cooperative movement. One of the cooperative organizations, the Belgische Boerenbond, with headquarters at Louvain, is perhaps the most important of its kind in the world; possibly no other agricultural organization so completely and so adequately provides for the farmer's needs.

Throughout the country, cooperative organizations have created facilities for cooperative purchasing and marketing and for every kind of insurance. They furnish experts to inspect farms and give advice; they publish newspapers, journals, and other literature; they organize study clubs, lectures, special technical instructions; and in many other ways help to improve the cultural and technical knowledge of the members. They instruct the farmer's wife and daughter in household management and in the farm work women normally perform.

They provide recreation facilities for the women. They take into account all the farmer's needs—economic, physical, psychological, and spiritual.

The basic organizational unit of the Boerenbond is the local guild, to which the head of the family belongs. The 1,200 guilds are federated by districts. The Boerenbond is an exclusively Catholic organization, and the pastor of the village plays an important part in the activities of each guild.

The Boerenbond has created several centralized services, such as its Secretariat General, League of Peasant Women, inspection service, technical service, purchase and sales service, central bank of rural credit, and insurance department.

The activities of the Boerenbond are limited practically to the Flemish part of the country. The Belgian Agricultural Union, also a Catholic organization, is the Walloon counterpart of the Boerenbond. The Union is, however, far less powerful than the Boerenbond.

This professional agricultural union was created soon after the last war in the Walloon part of the country. At first, its only objective was to influence opinion favorably toward agriculture, but soon it became engaged in the business, banking, and insurance fields. It is organized on a cantonal basis, but with provincial and national federation. Like the Boerenbond, it has created youth groups.

The organizations just enumerated are the most important, but other groups of purely regional influence also exist in every part of agricultural Belgium.

The Syndicates of Agricultural Wage Earners came into existence during the general strike of 1936. They were created under the auspices of the Socialist Party, but the Christian Democrats later formed similar laborers' unions in their ranks. Neither the Socialist nor the Christian Democrat union has a large number of members. These relatively young labor organizations distinguish themselves by their aggressiveness and the moderation and realism of their demands. They have succeeded, not without having held several strikes, in winning a series of reforms that had cost industrial organizations long efforts: Union recognition, parity wages, collective bargaining, vacation with pay, and minimum wages. They also have conducted negotiations for unemployment insurance and for the fixing of working hours.

The rapid progress attained under the impetus of the cooperative movement was made possible by the benevolent attitude and cooperation of officialdom. In particular, the Government developed a national program of education which reached the different classes of the agricultural population.

Three higher institutes of agriculture were formed: State institutions at Gand and Gembloux and a private institution at Louvain. Agricultural stations devoted to research in the field of agricultural mechanics, dairies, phytopathology, entomology, agricultural chemistry and physics, and rural economics are attached to these institutes. Likewise, schools of veterinary medicine and of horticulture have been created. The state and the provinces have also organized agricultural instruction for adults.

Many private schools are subsidized by the Government or are under state inspection. Among them are: 32 agricultural and horticultural secondary schools for boys and 21 sections for this work attached to ordinary secondary schools; 6 normal schools for training young

women to teach domestic science; 70 domestic science secondary schools for girls or sections for this work in ordinary schools. As many as 110 evening courses in domestic science for young women are also subsidized and inspected by the state. Fifty regional schools for evening classes for boys and young men are under the direct control of the technical department of the Ministry of Agriculture, 35 private evening schools for boys are inspected by the Ministry of Agriculture and subsidized by the government office of technical instruction; 600 sections of agriculture and horticulture attached to ordinary evening schools for boys and young men are also under government supervision.

Nineteen *ecoles agricoles ambulantes*—mobile kitchens installed on wheels—are provided by the Government and regularly taken around the country in charge of trained domestic science teachers to give short courses to young village girls or women. In 1938, some 12,000 boys and over 4,500 girls received minor agricultural instructions. It is estimated that about one-sixth of all the women and half of the men in Belgium have had some agricultural training, which is a higher proportion than in any other country of Europe.

Besides the national program for agricultural education, the Government has also founded an official agricultural service consisting of 27 government agronomists, 3 for each province. Some of the provincial governments also have added agronomists and agricultural technicians to their staffs. The state agricultural service was established to disseminate information on agricultural subjects to the rural population by means of publications, public lectures, private consultations, and the direction of model farms. The functions of the agronomists in this work may be outlined as follows:

1. *To popularize scientific agriculture* through a consultation service, experimental stations, and other facilities;

2. *To teach farmers the advantages that agricultural associations can provide* for them, and to furnish exact details on the organization and functioning of such agricultural groups;

3. *To advise the central Government of the work of official agricultural agencies and societies;*

4. *To organize and direct agricultural education for adults.* In addition to the agronomists, the Government has employed nine home economists (*conseillères ménagères agricoles*), one for each province.

The Netherlands

Background

The Dutch are a Germanic people, but there are certain distinguishable nationality backgrounds among them. The Frisians, Scandinavian in type, live in the provinces along the coast from Friesland to Zeeland. The people living in the provinces of Drenthe and Overijssel, in the eastern part of the country, are mostly Saxon in origin. The third important group is the Franks, who occupy the southern provinces of North Brabant and Limburg. Though these three groups vary as to background, they speak the same language and form a united nation—the indomitable Dutch.

The Dutch have derived much of their wealth from international trade. Their colonial possessions are fertile sources of oil, rubber, and tin and of many agricultural products such as sugar, vegetable oils, and tobacco.

Reflecting the extent of the commercial and industrial development of the Netherlands, only a fifth of the population is engaged in agriculture. Practically all of the farms are small, family-sized units. The 1930 census showed 234,000 holdings of more than $2\frac{1}{2}$ acres. Of these, almost half, 110,000 were less than $12\frac{1}{2}$ acres. Of the cultivated acreage, about one-third is in farms of 25 acres or less, and about 9 percent in farms of 125 acres or more. Thus, most of the acreage is farms of 25 to 125 acres. On an average, therefore, Dutch farms are larger than those of Belgium, but smaller than those of France.

In the Netherlands, as in Belgium, there are many holders of extremely small plots of land. These subsistence farmers do not rely entirely on the cultivation of their gardens, but also obtain some income by working in rural industries or on neighboring farms.

Roughly half of the Dutch farmers are tenants. Owner occupancy is more prevalent on the small farms in the southern provinces, while tenancy is more common on the larger farms in the rest of the country. Many of the best farmers are tenants. Leases frequently have a term of 5 to 7 years, with renewal and even inheritance rights. In recent years tenancy laws have been enacted that protect the tenant through tenancy courts in matters of rent adjustments, payment for improvements, eviction, and the like. Farm laborers are also protected by similar laws and regulations.

The most serious cleavage among the Dutch is that of religious differences. According to the last census, almost half of the people are Protestant, mainly Dutch Reformed; a little more than a third, Roman Catholic; between 1 and 2 percent, Jewish; and the rest list no church affiliation. These differences are accentuated by regional concentrations. The people of the southern provinces are almost all Catholics; in the rest of the country most are Protestant. This diversity in religion is mirrored in parallel political parties and farm organizations. The Netherlands has many local farm organizations. Each village has several societies, each one for a separate activity. Most of these local organizations center upon the parish. The general rule is for the local societies to federate into regional and national groups, along religious lines. Thus, the three large national farmers' unions are the Catholic, the Protestant, and the neutral. Similarly there are three national agricultural laborers' unions.

No farmers' political party exists in the Netherlands, yet through their farm organizations farmers exercise a potent influence on the political life of the country. A usual practice of the Government, whenever new farm legislation is being considered, is to advise national leaders of the farm organizations in advance concerning it.

Until recently the Dutch traditionally followed a policy of free trade, under which large imports of relatively cheap cereals and feed-stuffs were offset in value by exports to the United Kingdom and Germany of such commodities as meat, dairy products, fruits, vegetables, and flowers. During the depression years of the thirties, Dutch agriculture experienced an acute crisis, which led the state to adopt a program of agricultural subsidies and price-support measures, particularly for wheat, potatoes, sugar beets, fruits, vegetables, and dairy products.

Agricultural Education and Extension

In the Netherlands an extensive system of agricultural education comprises primary, secondary, and college courses. In general these

courses are extremely well attended. The primary agricultural education consists either of a two-winter evening course or a four-winter day course designed for 14- to 18-year-old students. Ordinarily the winter evening courses are given by the village schoolmaster. The secondary agricultural education is provided in both state and denominational schools. There are 13 state agricultural and 6 state horticultural winter schools, as well as 9 Catholic and 2 Protestant schools. State subsidies are available for the denominational schools.

Of the 4 regular agricultural schools, the highest ranking is at Wageningen, where a 5-year course leads to a degree of agricultural engineer, and frequently a position in the government service. Three-year courses are given in the schools at Groningen and at Deventer. The one at Groningen trains the sons of operators of large farms. Many of its graduates return to the farms as operators. The Deventer school specializes in tropical agriculture and trains its students to become supervisors of large agricultural enterprises in the Tropics. A school at Bolsward offers a 2-year course in dairying.

The Netherlands has a highly developed extension service, consisting of agricultural, horticultural, poultry, and other advisers. Each of 20 agricultural advisers has a general responsibility for extension work in a particular district. These advisers have about 250 to 300 assistants, who are available for consultation by farmers and farm organizations, teaching in the agricultural schools, supervising agricultural education in the district, arranging for field tests, and general assistance in farm problems. Among the advisers are many specialists in particular fields of agricultural science such as horticulture and animal husbandry.

The farm organizations also have a number of employees who are graduates of the agricultural colleges and work in the extension field in close cooperation with the government advisers.

Instruction in home economics at one time was directed by the Department of Agriculture, but in recent years it has been supervised by the Department of Education. Throughout the country are schools where farm girls are taught home economics. Some of these are state-operated, others are denominational and receive state subsidies. In these schools courses are given in interior decorating, nutrition, and similar subjects.

Graduates have been sent to rural districts throughout the Netherlands, where they visit farmers' wives and daughters and instruct them in cooking, sewing, baby care, housekeeping, hygiene, and nutrition. For example, in districts where the diet lacks a particular vegetable, its growth and use are encouraged. In districts where costumes are traditionally worn, the farm girls are helped in the choice of patterns and materials that will be more suitable for the work they will do.

The church plays an important role in the life of the Dutch farmer. In many villages nothing is done without consulting the pastor. If the priest or the minister is progressive, improvements can be effected easily. On the other hand, without their cooperation the bringing about of social changes is extremely difficult.

The Government, the church, the school, the farm organization are all engaged to some degree in extension work, and the successes achieved have been due in large measure to the combined participation of all these groups.

Switzerland

Background

Switzerland has a population of over 4,200,000. Four languages are in use: German, French, Italian, and Romansh. The percentage of the population engaged in agriculture is small in Switzerland as compared with that of most other European countries, but the percentage engaged in industry is high.

The Swiss are well educated. There is no illiteracy. The elementary school is general and obligatory. Even the poorest child goes to school for 7 to 9 years. Schools exist even in the sparsely populated mountain areas, and the larger communities have modern schools with all the necessities for day classes and evening courses for craftsmanship. The Swiss are outstanding craftsmen, not only because of their skill but because of first-class schooling in the crafts.

All the cantons have their respective handicrafts, practiced generally as a home industry among the rural population between seasons and in the long winter evenings. Organizations in the cities give assistance in the form of patterns and materials and by assuring fair prices for the work. The characteristic home industries are lacemaking in the Gruyère, fine linen embroidery in Appenzell, the weaving of silk ribbons in Basel, woodwork and hand painting of woodwork in quaint designs in the Toggenburg; enamel work on metal is the specialty of Geneva and watchmaking that of the Jura. The Bernese Oberland produces fine wood carving, and wooden shoes come from the Tessin.

In the schools, the children are inspected at regular intervals for general health conditions. A separate dental examination is made, and in many cantons dental work is done free of charge.

The main meal is served at lunch time; therefore, most people go home for it, and a school-lunch scheme is not a general necessity. Milk distribution was started in many schools at the time of World War I, and has been kept up and extended ever since.

Visiting nurses, midwives, and district hospitals and their dispensaries assist the farmer and his family in days of sickness. The country doctor is a venerated figure in rural districts. The Swiss definitely dislike charitable institutions, so doctors and hospitals frequently offer their services for nominal fees.

The types of houses vary greatly from one canton to another, but housing may be considered generally adequate in size and arrangement for healthful living. In the Ticino district and in east Switzerland the entire house, with the exception of the roof, is made of stone and masonry. In the Bernese valleys and other mountain districts, on the contrary, the houses, with the exception of the foundation, are made of wood in the famous chalet style. The poorest houses always have several rooms and a kitchen with a good stove. In the pasture districts the houses have a huge open fireplace in place of a stove, but these houses are to be considered as summer residences only. All the farmhouses have good stoves of tile that give warmth to the living room and are greatly needed in the cold, snowy winter months. Stables and haylofts may be built against the farmhouse or form a separate building; this varies from canton to canton. Between the First and Second World Wars great improvements were made in the housing of the farmer in all regions of the country. For instance, the straw-thatched roof—a relic of earlier times—has been replaced by fireproof constructions.

Such improvements have frequently been realized through extensive state subsidies.

Switzerland covers roughly 16,000 square miles. Half of this area is in forests and unproductive land. Before the Second World War, mountain pastures and permanent grasslands covered more than 40 percent, so that only about 10 percent of the country's area was suitable for crops and actually under cultivation. Nevertheless, before the war one-half of the food requirements of the population and most of the feed requirements were met from domestic production.

The outstanding Swiss agricultural enterprise is dairying. Prior to the war, Switzerland was approximately 70 percent self-sufficient with regard to meat; virtually self-sufficient with regard to butter; and a net exporter of cheese and milk products. The country depended on imports for three-fourths of its bread grain, most of its sugar, and all its vegetable oils. For potatoes, vegetables, and fruits it was largely self-supplying.

Most of the farm operators own their farms. Over 75 percent of the farm land and over 80 percent of the farms are family-owned and operated. Absentee proprietors are few. Roughly, half of the farm area and 80 percent of the farms, by number, consist of enterprises of less than 25 acres. According to the Census of 1929, 86 percent of the farm workers or members of their families were farm-operators. Over 40 percent were women.

Swiss peasants are noted for their cooperative activities, and the extent of their participation in various farm organizations. The agricultural population in 1930 numbered 866,000 persons, of whom 386,000 were active workers. In the same year there were 547,000 members of the various agricultural associations of the country. In 1940 there were 590,000 such members, the largest organization being the Union Suisse des Paysans with 53 local units and 430,000 members. In the same year 51,000 persons belonged to the seven cattle-raising societies, over 100,000 to various cooperative purchasing and marketing organizations, and 150,000 to the milk-producers' cooperatives. Among the eight federations of cooperative societies in Switzerland, the three largest were the Verband Ostschweizerischer Landwirtschaftlicher Genossenschaften, with 328 local units and 25,000 members; the Verband Landwirtschaftlicher Genossenschaften von Bern u. Benachbarter Kantone, with 254 local units and 25,000 members; and the Union des Syndicats Agricoles Romands, with 240 local units and 36,000 members.

Agricultural Education and Extension

Since the days of Johann Heinrich Pestalozzi, of Zurich (1746-1827), Switzerland has been known for its advanced education system. Pestalozzi founded a school for poor children in which he taught them the three R's, as well as the fundamentals of agriculture to the boys and homemaking to the girls. He is the founder of the first agricultural school, in Birsfelden, the Neuhof. He followed it with another school in Yverdon. Like Pestalozzi, Philipp Emanuel von Fellenberg, a Bernese (1771-1844) founded an agricultural school, the Hofwyl, which, just as the Neuhof, is still operated as a model farm school.

After leaving elementary school, the farmer's boy can take part in agricultural evening classes held throughout the country during the winter months. Furthermore, there are a great many agricultural

boarding schools with courses ranging from a few months to 3 years. The boys acquire theoretical knowledge and, at the same time, help to manage a model farm. Here is the place where problems they have at home on the farm are brought forward by the boys. Some schools arrange special winter courses for those boys who have to help at home during the summer season. The schools differ greatly; they are adapted to the needs and language of the students. Specific schools are conducted for different kinds of farm work such as the dairy and cheese industry, pasture economics, chicken and egg production, vegetable farming, and horticulture.

Educational facilities are available to farmers' daughters also. During her elementary school years, the girl gets acquainted with the elements of homemaking (cooking, knitting, sewing, hygiene, health, child care). After school she can attend evening classes or go to an agricultural school of home economics for girls. There are schools for horticulture, chicken farming, fruit growing and preserving, garden land arrangement. An office has been set up through which farmers' daughters from different parts of the country can be interchanged and thereby improve their knowledge of homemaking as well as learn a second language. Many cantons have adopted a law allowing only housewives with a diploma on rural homemaking to take in young girls for training. Farmers' wives can take short courses to widen their knowledge in canning, vegetable gardening, and the like.

Practical information on agriculture is carried to the farmers through informal channels available to all. Several weeklies, one of them with a circulation of over 90,000, written in easily understandable language, are edited for rural needs. Cinemas with special films are circulated primarily for school children but are available also to farmers. Special weekly broadcasts treat planting, breeding, and marketing problems. The weather forecast is given and is of prime importance during harvest time. The radio is sufficiently popular so that the information given reaches even high up into the mountain villages. An industrial and agricultural fair is held twice a year at Basel, and in Lausanne and Lugano once, giving the three main language groups an over-all view of developments in agriculture.

In 1943 Switzerland had 5 professional agricultural schools with full-year curricula, and 30 winter schools, in addition to 4 horticultural, 3 dairy, and 1 poultry school. Attendance at these schools totaled 2,576 for the year, over 2,100 being enrolled in the winter courses. Domestic-science normal schools numbered 14, with over 600 pupils. Some 10,000 pupils attended the agricultural continuation schools, and the domestic-science and agricultural schools for farm girls were also widely attended.

Extension work proper is carried on by itinerant extension workers who give the farmers advice on new practices. The competent adviser has to have an extensive knowledge of stock raising of every kind; production of cereals, fruits, and wines; butter and cheese making; poultry and bee keeping; market gardening for the towns and canning factories; milk production for chocolate and condensed milk; meat for market and for soup-cube factory consumption. The advisers are generally graduates of agricultural schools, and themselves come from farmers' families. Their working methods consist in extending their technical knowledge in an informal way to the individual farmer. Each adviser brings special fields under cultivation, proving his

theories through practical demonstration. In the evenings and on Sundays he gives talks and leads courses of a more theoretical nature.

Extension Guideposts for Western Europe

1. The countries of France, the Netherlands, Belgium, and Switzerland all possess a highly developed rural culture. Their cuisine is to be envied. The crop yields of Belgium and the Netherlands are among the highest in the world. These two countries, in particular, have effective systems of agricultural education and extension service, comprising both governmental and private (or church) organizations. Under these circumstances there should be no thought of sending agricultural missionaries from the United States to western Europe to teach the people there how to live on farms.

2. The development of effective education and extension programs is the responsibility of the private and governmental institutions of each country. No country has a monopoly on knowledge of agricultural science and of good extension practices. The United States, on its part, is making serious studies of extension work throughout the world in order to improve American procedures. Also, it is prepared to give, and is currently giving, to representatives of other countries programmed demonstrations and training in extension practices that have proved desirable in the United States. Such mutual interchange of information is one of the most desirable contributions that can be made to a general improvement in agricultural practices throughout the world.

3. Many of the farms of France, Switzerland, the Netherlands, and Belgium are so small that those who farm them cannot hope to attain a desirable standard of living, even though extremely high crop yields are obtained.

4. Before any program is proposed for western Europe, careful analysis should be made of its costs, as the western European economy will not absorb the costly services for which American consumers are willing and able to pay.

5. Extension workers have learned that they can do effective work only if they understand the social groupings and the system of relationships and cultural values of the local society in which they intend to work. Each country has a number of divergent cultural groups and regional differences in economic and other customs. Thus in Belgium there are the differences between the Walloons and the Flemish; in France, between the winegrowers and the wheat growers; in the Netherlands, between the large dairy farms in the northwest and the smaller family farms in the south; and in Switzerland, between the different language groups. Such differences should be taken into account in the development of national and local extension programs.

6. The extension program should be flexible; it should be adapted to the needs of the people.

7. Local people should have a part in the formulation of their extension programs. This principle works especially well in the Netherlands and Belgium.

8. Successful extension systems require local general agents, who reside in the area long enough to enable local farmers to learn to have confidence in the agents and to seek their advice. There should be a sufficient number of these local agents so that all the farm people have

access to advice on their problems. In addition to the local agent it is desirable to have commodity and other specialists serving larger areas.

9. The local extension agent should make a wise selection of the leaders and groups of farm people through which he can operate effectively.

10. Each local extension agent should develop a corps of paid or volunteer assistants. These assistants should be trained by the agent or by the extension specialists for the part they are to play in the extension program.

11. Since extension is primarily educational, the extension system ordinarily should be separated from inspection and regulatory work. However, close cooperation between inspectors and extension workers is desirable.

12. Both in the formal agricultural training and during the period of service in the extension system, the local agent should be provided with up-to-date information.

13. The agent should be sympathetic toward the problems of the farmer, and understand these problems. An example of the training that will produce this type of agent is the system in the Netherlands, under which agricultural students spend a certain period actually working on farms.

14. It can never be assumed that the people who are concerned in any program understand its objectives and techniques. Usually repetition of ideas and demonstrations is necessary many times before they will be understood and imitated.

15. Before adopting a large program, testing it out on a small scale in a local community is desirable to see whether the program will work, and to assure that adequate use will be made of the product and that markets will be available.

16. Research is basic to successful extension so that there will be something to extend.

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Central Europe

The Region and Its Background

EDUCATIONAL influences are deeply rooted in the area geographically known as central Europe—Czechoslovakia, Poland, Germany, Austria. The histories of the component countries differ widely. But each country in the region has seen through the centuries the waging of a personal struggle by teeming millions—the struggle for a livelihood which transcended in importance the conflicts between the countries. In this struggle, the culture and traditions of the different people played an increasingly important part. In each country, however, the family, prior to nazism, was regarded as the primary unit. Families were organized predominantly into villages. Religion and mutual economic interests tied families together into communities. Appreciation of the influences of education was keen. In the rural villages the people were alert to recognize the importance of scientific agriculture to successful farming.

To understand the possibilities that both the pre-Nazi educational organizations and the past tradition of the family unit can play in the agricultural rehabilitation of a liberated central Europe, an understanding of certain social and economic features, by countries, relating to extension work, is helpful. The restoration of any of the organizations and institutions of education in areas that have been under Nazi control presupposes, of course, a thorough elimination of all Nazi elements and necessary precautions in the direction of preventing such elements from again permeating the social and economic life of the country, openly or subversively.

Czechoslovakia¹³

The Czechoslovak Republic has an area about the size of the State of Florida or New York, and covers some 54,000 square miles, or approximately 34,594,000 acres. It is made up primarily of two parts: The western region, largely industrial, comprising the so-called historical Provinces of Bohemia, Moravia, and part of Silesia; and the eastern region, largely agricultural, made up of Slovakia and Subcarpathian Russia.

The average rainfall is about 25.6 inches. The soil varies from deep, fertile alluvial soil in the valleys to gravelly mountain soils.

Forty-two percent of the total area of Czechoslovakia is arable land; 33 percent is forest. Sugar beets (yearly output of sugar, 11,576,639 quintals, = 15 percent of world production), wheat, and high-grade barley for brewing are cultivated in the low-lying areas; in the more elevated regions (one-eighth of all arable land), potatoes, rye, and oats are the main crops. Prior to the formation of the new republic in 1918, 1,000 people owned 26 percent of the total area of the nation, while 70.7 percent of all agricultural holders owned only 6.5 percent of the area. Under the land-reform law of 1919, large estates were broken up and the owners paid on the basis of the average value of the land and buildings in 1913 to 1915, its productive yield or rent paid prior to reform. Land thus gained was sold to 639,000 applicants,

¹³ The material on which this information as well as the information on the extension service of Czechoslovakia is based was assembled by a subcommittee including Daniel C. Dvoracek, Vaclav Myslivec, Antonin Obrdlik, Ruza Sturmova. Institutions and organizations described as of the prewar period.

while the remainder was allotted to towns for parks and two cooperative societies. Through this reform, 10 percent of all arable land and 18.2 percent of all forest land (12½ percent of the Republic's area) changed hands. To prevent a decreased agricultural output, after the land was divided, the Government sponsored widespread agricultural education and encouraged cooperatives.

Czechoslovakia's agriculture is closely bound with industry and depends on world conditions. This led to establishment of the grain monopoly in 1934 in which agricultural cooperatives, consumer cooperatives, commercial mills, and traders in grain were represented. The grain monopoly bought up all domestic grain at fixed prices and exported or imported as occasion demanded. The area of cultivation was regulated on the basis of 1930.

1. *Population.*—The population of Czechoslovakia is over 15 million or 271.6 people per square mile. It is made up of racial groups as follows: Czechoslovaks, 66.9 percent; Germans, 22.3 percent; Hungarians, 4.8 percent; Carpatho-Russians, 3.8 percent; Jews, 1.3 percent; Poles, 0.6 percent; others 0.3 percent. Thirty-five percent live by industry and crafts; 35 percent, by agriculture, forestry, and fisheries; 13 percent, by commerce, transportation, and finance; 17 percent, by the professions and public service.

2. *Agricultural schools of secondary and lower grades.*—Agricultural education in Bohemia dates back to the beginning of the eighteenth century, when the first agricultural school was founded in 1728 by monks of the Benedictine Monastery at Brevnov. The first school for farmers was opened at Trnava in 1790. This was followed by an agricultural academy for young state officials at Krumlov in 1801. The abolition of serfdom in 1848 gave an impetus to agricultural training, and a number of schools of the practical type attached to model farms were established soon after by patriotic agricultural associations. In 1864 the Bohemian Diet subjected all agricultural schools to legislative control and classified them into three groups:

(a) Farmers' schools giving 2-year practical agricultural instruction to farmers' sons; (b) intermediate agricultural schools, preparing candidates for the management of large farms, offering a 3-year course and requiring about 8 years of schooling for admission; and (c) higher schools, providing advanced training. The last-named admitted graduates of secondary schools and offered a 3-year course.

In 1936-37 there were 268 of the higher type agricultural schools and 1,017 of the lower type, or a total of 1,285 agricultural schools in the Republic. This number had not changed materially before 1938, when Czechoslovakia was invaded. The present status is unknown.

Agricultural education is financed either by the national Government, the province, or community effort, or a combination of all three. Agricultural schools are divided into seven groups:

a. Farmers' schools are of two grades, junior and senior.

(1) The junior-grade farmers' schools include—

(a) 2-year farming schools which train sons of farmers. The school year runs from October 1 to July 31. The winter semester is devoted primarily to theoretical training, including both general and agricultural subjects; the summer semester emphasizes practical application. Each school has a model farm.

(b) Special farmers' schools, formerly known as 2-year winter schools, in which the teaching is largely theoretical. The school year consists of a single 6-month winter semester extending from November 1 to April 30.

(c) 1-year farmers' schools that are closely similar to the 2-year special farmers' schools, but are supplemented by practical instruction during the summer. This course is of 10 months' duration. Applicants for admission to any of the lower grade farmers' schools must be at least 14 years of age and have completed the 8-year compulsory school.

(2) The senior grade farmers' schools are strong secondary schools fully equal in their special field to the last 4 years' training of any of the secondary schools of general education. Their purpose is to train future owners of moderate-sized farms. Candidates for admission must have completed a 4-year civic school, the 4 junior years of a general secondary school, or the work of a 2-year lower farming school. The 4-year course of study calls for 248 semester hours including a language of instruction and either Czech or German as a second language; scientific subjects, agricultural subjects, and five types of laboratory work. Besides these required subjects, English, French or Russian, stenography, and gymnastics are recommended.

b. Horticultural schools are also of two grades, junior and senior.

(1) Junior schools offer 1- and 2-year courses of study, open to those who have completed the 8 years of schooling and have had 2 years of practical experience in horticulture.

(2) Senior schools admit pupils who have reached 15 years of age, completed the 4 years of either a secondary or a civic school, passed an entrance examination, and had 1 year of experience in horticulture.

c. Housekeeping schools are also of two grades.

(1) Junior housekeeping schools with a 5-month and a 1-year course of study.

(2) Senior housekeeping schools with a 1-year and a 2-year course of study.

Summer schools also are held from April to September for those girls who have studied at agricultural schools during the winter semester. Candidates for admission generally are 15 years of age, with 8 years of school training. The aim of the housekeeping schools is not only to train farm girls for their responsibilities as farmers' wives and mothers, but to afford them an intelligent background of life. In addition to instruction in horticulture, dairying, animal and poultry breeding, housekeeping and agricultural economics, the girls are trained in subjects of general education including the language of instruction, history, mathematics, principles of teaching, hygiene, and music. Every school has a model dormitory and a school farm where the pupils work.

d. Schools of forestry include—

(1) Senior schools of forestry, which aim to train officials or managers of forest estates. Their admission requirements are somewhat stricter than those of the other special secondary schools in that they require an entrance examination in mathematics, geometry, and the language of instruction to graduates of the 4-year civic or general secondary school or of lower grade agricultural school. The course of study is 4 years of 10 months each. The total number of hours to be completed is 288. Graduates are admitted to a faculty of forestal engineering in an agricultural institution of university rank.

(2) Schools for foresters, which train forest wardens. The requirements for admission are the same as those for the senior schools of forestry. The course of study is 10 months each year and is practical rather than theoretical.

(3) Schools of timber industry, which aim to train employees for the timber trade and the wood industry. Conditions for admission are the same as those just described. The course of study is for 2 years and stresses technology, transportation, commerce, and mechanics.

e. Special agricultural schools include—

(1) The senior agricultural cooperative school at Prague, which provides training for future officials and employees in all kinds of agricultural cooperative concerns. It is a private institution under the supervision of the Ministry of Agriculture. It admits graduates of a secondary school and offers a 1-year course of study. It stresses commerce, finance, banking, and cooperative problems.

(2) Dairy schools, which train managers of dairies and cheese factories. The curriculum lasts from 6 to 12 months, and instruction is both theoretical

and practical. Candidates for admission must have completed the junior agricultural course and had 1 year of practical experience in a dairy.

(3) Land-reclamation schools, which offer a 2-year course of study in irrigation, drainage, and construction of highways. Admission requires the completion of either a 4-year civic school or the 4 junior years of a secondary school of general education.

(4) The government school of fish culture, which trains for positions in the executive staff of the state fisheries. It admits candidates who have completed at least 8 years of general school training and offers them a 2-year course of study.

(5) The distillery school, which provides theoretical and practical training for managers and foremen of distilleries and yeast factories. Its course is 1 year in duration. Candidates for admission must be graduates of lower grade agricultural schools or have completed 4 years in a secondary school of general education, plus practical experience.

(6) Pasture schools, which offer a 1-year course for graduates of 8-year elementary schools.

(7) Courses in poultry raising, which are short-term courses in theoretical and practical instruction in poultry raising. A model poultry farm is attached to the school.

f. People's farming schools, which aim to continue the farm boys' and girls' general education beyond the eighth elementary grade, and also provide them practical training in the elements of agricultural science. The course of study lasts 2 years, and a third year may be added for the study of some special branch of agriculture such as dairying and potato growing. Practical work is performed in the summer on the school farm. The people's farming schools are established at the request of a local community or an agricultural corporation. If, however, such a school is established in a community, its attendance is compulsory for all boys and girls of the community who are over 14 years of age and engaged in farming. In 1931-32, 853 such schools held 1,270 classes and were attended by 23,190 pupils, of whom 12,597 were girls. This total should be contrasted with that of 1919, when only 28 such schools were in existence.

g. Institutions that give agricultural training on university levels offer 4-year courses in agriculture and forestry, which result in a degree of engineer in agriculture or forestry to which may be added a doctor's degree upon completion of the satisfactory thesis covering some phase of individual original research and an oral examination. These university schools were the College of Agriculture and Forestry Engineering of the Czech Institute of Technology, in Prague, and the Agricultural University in Brno, which has two faculties (agriculture and forestry).

3. *Agricultural experiment stations and application of research.*—The experimental stations attached to agricultural schools can serve a variety of purposes, all of which are of great importance as—

- a. Aids to study in the practical instruction and education of the pupils.
- b. Means whereby the teachers can extend their practical and theoretical knowledge and at the same time keep in touch with the practical side of agricultural work.
- c. Centers for giving object lessons when new agricultural methods are being employed in order to introduce them among the farming population.

When large and self-sufficient establishments are concerned, they have still further tasks to perform. Such establishments are required to—

- d. Serve as models of profitable agricultural production.
- e. Distribute the seed produced by them and the cattle bred by them in the district in which they operate.
- f. Utilize the result of modern research work and test modern economic methods in the interests of agricultural production.

4. *Cooperatives.*—Advanced agricultural cooperatives (over 10,000 purchasing, producing, and credit cooperatives with more than 1,000,000 members) culminate in their central organization, the Centrokoperative. Besides the self-supporting credit cooperatives (Kampelik

Banks), and provincial mortgage banks and numerous district farmers' banks, there are loan banks to take care of agricultural credit.

At the end of 1937 Czechoslovakia had a total of 11,673 agricultural cooperative societies.

Poland

Poland corresponds in size to the State of California. In 1939 it had a population of about 35 million people. About 60 percent of the total population is rural. The rural population density of Poland is greater than that of any other European country. The majority of farmers live in villages.

Prior to World War II, the administrative divisions of government were: (1) National, (2) provincial (17 provinces); (3) county (264 counties); (4) township (3,196 townships); (5) village. A province has from 8 to 27 counties. A county has an average of 13 townships.

Since the emancipation of Poland after World War I, the problem of illiteracy has, until the recent war, diminished among the younger generation. Attendance at primary schools has been compulsory since 1918. As in all countries, such attendance may not have been equally enforced in every rural area, but it has, by and large, resulted in making all young people literate. Prior to the occupation of Poland in 1939, much progress had also been made in the way of radio communication. Many rural villages had recreation houses in which radio programs could be heard, and some individual rural families used neighborhood radio receiving sets. With the occupation, however, possessors of radio sets were subject to severe punishment if discovered by the enemy occupying forces.

1. *Chambers of agriculture.*—In Poland, chambers of agriculture play an important part in the economic life of farm people. Their relation to extension work is more fully outlined in the section on extension organization (p. 84). The chambers have considerable authority on the provincial level. They represent a combination of three groups: a. One-third of the members are elected by rural township committees; b. one-third are elected by farmers' county organizations; c. one-third are appointed by the Secretary of Agriculture for Poland from among nominees proposed jointly by presidents of chambers and provincial governors.

The county organization determines the use of local funds obtained from taxation for agricultural improvement and education. The provincial and county organizations determine final policy, while the national Secretary of Agriculture has power to act only in an advisory capacity. His advice frequently is followed in view of the fact that fiscal assistance from the national Government can only be given local agricultural programs upon approval by the Secretary of Agriculture. The secretary of the national department of agriculture has a right to accept or reject the election of the presidents and provincial agricultural chambers. However, if the president is reelected, the national secretary accepts him.

2. *Credit for farmers.*—Agricultural credit is one of the great problems of Poland. Operative credit for cooperative organizations, fertilizer organizations, and funds to purchase equipment and supplies is not easy to get.

The most important factors that prevented the credit services from increasing on the proper level were unstable prices for farm products, recurring agricultural depressions, and lack of foreign credit.

Germany¹⁴

1. *General characteristics.*—Farming in Germany is in general conducted on an intensive basis. The agricultural area is relatively small in proportion to total population. Germany proper (Altreich) has an area about two-thirds that of the State of Texas and a population of 70 million. Its industrial areas, particularly in the west and center, are among the most densely populated regions in the world.

There are approximately 3 million farms of over one-half hectare ($1\frac{1}{4}$ acres), and approximately 20 percent of the total population is comprised of persons engaged in agriculture. About 99 percent of the farms are small or middle-sized, and 1 percent are large farms and estates, that is, 250 acres or more. From the standpoint of area involved, about 70 percent of the land belongs to a broad middle class of independent farmers, 20 percent to large estates.

Germany has no significant tenant class, since the dominant characteristic of German farming is owner operation. Even in pre-Nazi days, farms were not frequently bought and sold. Most of the farm operators adhere to the idea that farming is not only a business, but also a way of life. They consider their farm as a trust which they wish to preserve for themselves and their children. Further, throughout the greater part of Germany farms have been inherited as a whole, usually by primogeniture. Nazi legislation has made this old custom compulsory for most farms, from a subsistence size to about 250 acres.

For centuries the German farmer has been imbued with the practices of soil conservation and the habits of cooperation and group discipline that are essential to successful extension work. As a rule German farms are diversified because of farm family needs, necessity to preserve topsoil by conservative land use, and the fodder requirements of livestock. Large estates in some sections are more specialized.

On the family farm, women are heavily engaged in farm work; they tend the small animals; do the milking; go to the market to sell eggs, butter, and garden produce. They also help in haying and in the grain harvest, and in many parts of the country do regular work in the fields.

Apart from east Germany, where a numerous and influential upper class of large landowners (Gutsbesitzer) exists, the villages are not highly stratified. In some parts of the country, however, a pronounced difference in social status exists among the big farmers, the middle and small farmers, and the various categories of laborers residing in the villages. In general farm laborers are in two categories:

a. Settled farm laborers, whose main characteristic is that they usually work on the same farm for a number of years. They may be of various types:

(1) Hired hands (Gesinde), that is, young men and women who receive wages, room, and board in the employer's household. Such laborers are typical on middle-sized and large farms throughout the country.

(2) Day laborers:

(a) Independent day laborers who either own a small farm and look to the work on a larger farm as an additional source of income, or are tenants on a 5- to 10-acre farm (belonging to a larger farm) who pay rent by

¹⁴ The material on the social and economic background for Germany was compiled by a committee composed of Rudolf Heberle, professor of sociology, College of Arts and Sciences, Louisiana State University; Miss Minnie Price, State home demonstration leader, Ohio State University, Columbus; John H. Richter, Office of Foreign Agricultural Relations; Joseph Kraemer, consultant, U. S. Department of Agriculture; Gordon P. Boals, Office of Foreign Agricultural Relations, U. S. Department of Agriculture.

working a certain time of the year on the farm of the landlord. (Laborers in the latter group are typical of Hannover, Westfalen, and Oldenburg.)

(b) Contractually bound day laborers who are provided with house, garden, and a small share (about one-half acre) in the employer's land (Insten Deputatinsten). They usually receive about one-third of their wages in kind.

b. Migratory seasonal workers—often foreigners—on large estates or commercialized farms.

The great density of cities in Germany makes it possible for practically every farmer to go to the market town in a few hours and return the same day. Railway and bus connections are well developed in most parts.

2. Regional characteristics:

a. West and northwest Germany.—This region in general may be described as being west of the Elbe and north of the Harz Mountains. It also includes Schleswig-Holstein north of Hamburg. Small and medium-sized farms prevail in this area. Farms of over 100 hectares (250 acres) are considered large units. Agriculture in this region is associated with a high level of economic development, industrialization with its dense population, a favorable climate with adequate rainfall, an extensive transportation system with ready access to markets, and a generally high land value.

The Low German language (Plattdeutsch) is still the family and village language among rural people. The northwest part of the region is predominantly Protestant (Lutheran), while the Rhineland, Westfalen, etc., are in large measure Catholic.

Throughout the region, the farm family is a production unit and a group of great solidarity. It has been strengthened by the customs of closed inheritance. Kinship ties are in general very strong. Interest in family history is active. Houses of farmers are often old, some dating from the late sixteenth and many from the seventeenth century, and even more recent houses are often built in the old Saxon style with living quarters and stables and storage for hay and grain all under one large roof.

Neighborhood ties are usually strong even in socially stratified communities. Neighbors aid each other in major crises in life and participate in happy events such as marriage, baptism, and confirmation. Neighborhood customs are not merely factual forms of conduct, but are rooted in the social code of the communities. Even strangers who acquire property in a village are likely to be integrated into a network of neighborhood relations. Duties and privileges of "neighbors" generally attach to farms and houses rather than to persons.

The village school teacher in pre-Nazi days was a well-trained man, married, with a family of several children, and settled for good in the village. Usually he was a native of the region and often a small farmer's son. After some years of residence he would be sufficiently acquainted with the conditions of the community to command the respect of the farmers and become a part of the community.

In this area, prior to 1933, the political and social leadership was in general provided by the more prominent farmers and landholders. These furnished the Gemeindevorsteher, who represented the farmers in the provincial assembly (Provinziallandtag) and frequently in the Prussian Diet and the Reichstag. They also held the higher offices in the Landwirtschaftskammer and the farmers' associations.

With the Nazis, new layers of the rural communities came into controlling positions. Small farmers who happened to belong to the "old guard" in the Nazi Party and others belonging to no particular status group were appointed as Ortsgruppenleiter and Dorfbauernführer, sometimes even as Gemeindevorsteher. Some of the old Landräte (district administrators) stayed on; others were replaced by party members.

Voluntary farmers' associations for various purposes and of cooperatives in particular are traditional in the region. The flood-control and reclamation work on the northwest coast, for example, has been handled for generations by autonomous corporations of farmers (Deichgenossenschaften) operating under state control and with state aid. In general, the region is a stronghold of dairy cooperatives. Farm credit, which is extremely important in a region of highly commercialized agriculture, has been well provided, with a highly

developed network of cooperative banks operating under state control and backed by the national farm-credit institutions (Preussenkasse, etc.). Crop and livestock insurance and fire insurance are universal.

The standard of living is generally high throughout the region.

Farming is considered a calling, not a mere business. Therefore, little occupational change back and forth takes places between farming and other occupations. Retired farmers stay either on the farm (Altenteil) or move to small towns as renters. Little trading is done in farms, more in estates. Trading in pasture land in marshes was frequent before 1933. Prestige depends primarily on size of the farm, that is, the number of horses and cattle owned.

b. South and southwest Germany.—This area is essentially an agricultural region. Its natural environment favors small farming units. The land is largely mountainous, or rolling and of "broken surface"; forests, pastures, and plowland are generally interspersed. Types and quality of soil vary greatly, even within small areas. Small farms are better suited than larger units to cope with these conditions.

Livestock and dairy farming are significant throughout the area. Specialized commercial farming has developed in some districts, as for example, the cultivation of tobacco in Baden, of hops in Bavaria and parts of Württemberg, the production of cheese in the Allgaeu. Otherwise the agriculture of the region is generally diversified.

As already indicated, the area is one in which the small farm prevails. Such large holdings as exist in this region, belonging to former sovereigns, churches, municipalities, are mainly forestry holdings. Their agricultural land is divided in medium or small farms operated by tenants or owner-operators, who rent some of this land to round out their own property.

In some areas, closed inheritance prevailed. In others, prior to Nazi legislation, the children of the farmer inherited the family farm in equal shares. This custom in some regions (for example, Baden) resulted in an extreme reduction in the size of holdings, so that some farmers or members of their families had to take up work in industry. On the whole, this custom has tended to prevent the development of sharp class differences among the rural people. As a result, the rural social life in south and southwestern Germany is characterized by a democratic temper.

The great delight in group sociability, group singing, dancing, eating, drinking, and in common festivals are expressions of a strong sense of community solidarity. The village square, the inn, the church are the centers of this community life. The church tends to strengthen a sense of solidarity, church festivals being affairs of the entire community. Community leadership is usually in the hands of the most prominent farmers. Pastors, priests, teachers, and physicians are respected leaders.

On the whole, farms in river valleys and on plateaus tend to be more prosperous than those on the hillsides. The simplicity of the material culture (such as house types, furniture, dress) is an expression of conservatism rather than an indication of a low level of living. On some areas, dietary habits are unsatisfactory and need improvement.

c. Eastern Germany.—The agriculture of eastern Germany is characterized by the prevalence of large units and estates, which comprise about one-half of the farmland east of the Elbe River. The maintenance of large farming units has been favored by natural conditions conducive to large-scale farming, by inheritance laws, and economic policy.

The country east of the Elbe in general is flat, with uniform types of soil over large contiguous areas. This condition favors mechanized farming and cultivation of large acreages of individual crops. A relatively short growing period necessitates rapid completion of seeding, cultivating, and harvesting operations. As a result, sharp peaks in labor requirements occur, which are difficult to cope with on smaller farms. Rainfall in general is insufficient to support as diversified a type of agriculture as in other parts of the country. Soil and climate in the eastern areas favor grains and root crops, especially rye and potatoes.

Compared to other parts of the country, Germany's east is not densely populated; transportation and communication systems are less developed; and there is relatively little industry. Surplus products do not have a ready local market.

One of the main sociological characteristics of the rural east has been the concentration of political power and social control in the hands of the large landowners. Rural society in eastern Germany has also been greatly influenced

by the high degree of commercialization of agriculture, its dependence upon hired labor (both resident and migratory), and the rather low level of living of these workers.

Schools, churches, and other organizations in rural communities were controlled by the landlords. The Protestant religion is prevalent, except in certain parts of East Prussia and most of Silesia.

The farmer class, that is, independent operators of small and medium-sized farms, is relatively strong in the Mark Brandenburg, in East Prussia, and in lower Silesia, whereas it is weak in Mecklenburg and Pomerania. Farmers in eastern Germany tend to be less self-assertive in public matters than in the northwest, since they have been accustomed to be led by the large landowners.

d. General basis for agricultural extension.—Agricultural extension in Germany is favored by a number of factors. There is practically no illiteracy among farmers. Interest is active in more efficient operation and production. Since most farmers own and operate their own places, they are in general receptive to new methods and experiences and mostly accept suggestions and advice for improvements quite readily.

The extensive system of schools, churches, and other community centers throughout the country provides an opportunity for group meetings and an exchange of views. In general, also, the means of communication such as local roads, railroads, telephones, and postal services contribute to facilitating contact with and among rural people.

Extension Organization

This report was prepared late in September 1944, at a time when hostilities in Europe were still in progress. The greater portion of the area considered was still under enemy rule. Much of the information on organizations directly or indirectly connected with extension work (in the broader use of this term) is, therefore, necessarily based on knowledge of the prewar situation. This information is valuable to the extent that, according to general agreement, the prewar agricultural organizations, if freed from political domination and influences, will serve as the nucleus for the agricultural programs of a liberated central Europe. It is necessary to differentiate between extension work of Poland and Czechoslovakia and that of Germany and Austria.

Czechoslovakia.—Extension work as we know it in the United States is carried on in Czechoslovakia largely by teachers in the various types of agricultural schools, by advisers selected from personnel of farm organizations, by cooperatives and successful farmers. It is approved by the Ministry of Education. The media of instruction include short courses, experiments, personal advice, exhibits, and lectures.

1. *State central scientific institution for agriculture.*—The Czechoslovak Academy of Agriculture was founded in 1924 to promote research and practical application of theoretic results. It is organized into six departments—farming; forestry; horticulture, viticulture, and fruit culture; agricultural industry; economics; and literature and culture. It has a Slavonic central agricultural library with 60,000 volumes of domestic agricultural literature and 150,000 volumes of technical literature of all agricultural nations. Its reading room has 980 agricultural periodicals and reviews from the whole world. In 1930 it founded its scientific institute to study agricultural production and tariffs of the world, especially of central Europe.

2. *Agricultural extension education.*—Adult courses in agricultural extension education are offered through films and lantern slides, public lectures, libraries, and reading rooms; an advisory service rendered by the agricultural schools of all grades to their respective communities;

agricultural courses for soldiers during their period of compulsory military service; and a series of agricultural museums in Prague, Brno, Bratislava, Mukacevo, Opava. The Czechoslovak Farmers' Union and other organizations of like nature carry on much extension work.

Extension service is, of course, far from being exhausted by the activities of the agricultural institutions and organizations. The Masaryk Institute for Adult Education, founded in 1925 (formerly the Educational Society established in 1906), supplied the necessary equipment for free extension courses and lectures scheduled by people's universities (free evening courses in various communities) under its supervision. It conducted an educational film and slide exchange, arranged annual courses for local leaders in adult education, gave nucleus libraries to schools and farming communities, and cooperated with cultural organizations throughout the country in conducting courses, lectures, concerts, and exhibitions. All its local work (except that of paid employees of larger libraries) was done by volunteers. County fairs and their exhibitions are important in spreading knowledge of new developments among farmers. If they ask for it, farmers are given expert assistance as far as analysis of the composition of the soil is concerned and suggestions as to use of fertilizers to increase productivity.

The Czechoslovak Red Cross covered practically the whole territory of the Republic while organizing courses with practical demonstrations (and, or, with the aid of films or lantern slides) on how to improve health and hygienic conditions in rural areas, maternity courses, dietetics, and home economy.

Cultural organizations such as the Sokol movement (national organization with aims to conserve the nation's health through gymnastics, and to develop the civic morale of the citizenry) had much to contribute.

Teachers, especially those in primary schools, were consistently giving aid to farmers either individually or in groups, by giving them advice, usually on Sundays, on how to keep bees, plant and care for fruit trees, and by explaining how modern machinery could help them to increase yield.

Special daily and weekly newspapers and magazines kept farmers well informed on all phases of new developments, gave them many practical suggestions, awakened them to a sense of responsibility for the general well-being in a democratic self-government, and thus helped to develop civic virtues. Such publications were widely and eagerly read.

Czechoslovakia's postwar extension service in agriculture could and should make use of organizations that were active in the past as a nucleus for further development to meet needs as they arise.

The majority of these, of course, have been disbanded and their property confiscated by the Germans. The general framework, however, remains, and with the help of those leaders who have survived, extension work will be reestablished.

The social institutions that did extension work in the past are:

1. Agricultural schools of all grades with their experiment stations, model farms, adult-education courses, and advisory service to communities. This education was not limited to agricultural theory and

practice, but included such cultural subjects as literature, music, art, history, civics, and international relations.

2. The Czechoslovak Academy of Agriculture in Prague, a center of agricultural research. It has six departments, a Slavonian agricultural library, a reading room, and a scientific institute which publishes its own periodicals and studies.

3. The Czechoslovak Farmers' Union and the farmers' cooperatives, of which in 1937 there were 11,673 with a membership of one-third of all the agricultural population. The local cooperatives were federated into 1 national organization made up of 12 regional cooperatives. Each regional cooperative had its own press and professional training courses. Two special schools (in Prague and Bratislava) trained the personnel.

4. Masaryk Institute for Adult Education (whose extension work is described on p. 82) in Prague which supervised 17 people's universities; the courses in rural communities organized by the Czechoslovak Red Cross; other cultural institutions and organizations active in extension work—the Sokol, the Orel, the D.T.J. (Workers' Gymnastics Association), and Osvetove Svazy (cultural unions), which existed in all counties and larger communities. The work of these organizations was carried on with the help of a large number of unpaid volunteers and of organized local communities. Every student, teacher, and other professional was expected to share in it.

5. In small communities, primary-school teachers were constantly giving assistance to farmers (see p. 82). Successful farmers themselves gave additional talks and advice.

6. Newspapers, magazines, and radio. Six hours of radio time over national hook-up were devoted to agricultural instruction.

The methods and organizations just described proved successful and should be revived.

Of course the destruction and plunder of resources in this war and the impact of the Nazi "new order" must be borne in mind. Therefore, the prerequisite of any such revival is first the full and just restoration of both materials and funds.

Second, ideological reorientation, dependence upon exclusively German scientific sources, and the absolute lack of contact with the outside world and its progress and research will have to be dealt with.

For this important task the extension work must have access to agricultural literature, new techniques, and educational media (such as films) of the West, especially the United States. Training of agricultural experts at American institutions under exchange scholarships is recommended.

Suggested improvements.—Extension work should be more systematized and intensified. Duplication through activities of various organizations could, to some extent, be eliminated through a more integrated cooperation of all respective groups in a community or county council. Specific and urgent problems which the postwar situation does present should furnish an impetus for such a unification.

In Czechoslovakia, the people's desire to build up their own country again should insure their willing participation in extension work.

Much could be accomplished by the widespread use of visual educational facilities such as pictures, films, slides, exhibits, and models. These should be available to local communities upon request.

Illiteracy is not a major problem in Czechoslovakia, as proved by the past record of the Republic. However, the closing of the institutions of higher learning and of many secondary schools by the Germans will present special problems in administration, readjustment, and guidance of youth.

Extension work should by all means be used in connection with the postwar reconstruction program, since both depend upon the cooperation of the people.

Poland.¹⁵—Organization of the extension system:

1. *History*.—The Polish Extension Service, from the latter part of the nineteenth century until 1918, was based mostly on the Polish agricultural organizations. After Poland had won her independence in 1918, she started to organize her extension system, basing it, on the one hand, on the agricultural organizations, and on the other, on the Department of Agriculture. In the years that followed, the authority kept shifting from one to the other, until finally, in 1932, the present extension system was established, founded on a special organization called the agricultural chamber.

2. *Budget*.—The budget comprised—

- a. On the county level, at least 10 percent of the entire county budget.
- b. On the province level, at least 10 percent of the rural taxes of the province.
In 1936-37, about 9,000,000 zloty.
In 1937-38, about 11,200,000 zloty.
In 1938-39, about 12,000,000 zloty.

The administrative costs were between 13 and 14 percent.

The extension service budget increased every year because of the increase in the scope of extension activities.

c. On the national level, the budget was not stable and consisted of the support of the four sections belonging to extension organization.

3. *Personnel*.—The Polish Extension Service operates on three levels.

- a. County.
- b. Provincial.
- c. National.

In each of which the staff is composed of those holding—

(1) Honorary positions to which holders are—

(a) Elected by—

- (1) Agricultural organizations.
- (2) Communities.
- (3) Chosen by agricultural organizations and communities, but subject to acceptance by the secretary of agriculture.

(2) Professional positions, to which appointment is made by the honorary staff.

a. County level.

The chief of the county extension system (honorary) is the president of the county agricultural organization (also honorary). His working staff consists of—

(1) Honorary workers from organizations of farmers, of women, and of youth.

(2) Professional workers, three to nine instructors (county agents), who are agricultural specialists in different fields.

(3) Clerks.

b. Provincial level.

The chief officer of the provincial extension system is the president of the agricultural chamber. He works through—

¹⁵ The information on extension work in Poland was prepared by Boleslaw J. Przedpelski, President of the Chamber of Agriculture of Warsaw and of the United Chambers of Agriculture of Poland.

(1) An honorary staff:

- (a) Board of directors.
- (b) Committees of subject-matter specialists, chosen from every agricultural field.
- (c) Agricultural general and special-purpose organizations of farmers, women, youth; of horse breeders, cattle breeders, and for dairy-herd improvement.

(2) Professional staff:

- (a) Director of extension service of the agricultural chamber.
- (b) Inspectors—subject-matter specialists.
- (c) Clerks.

Practically all of the agricultural problems are solved on the professional level, by the agricultural chambers. Poland has 13 such chambers, each of 11 covers 1 province, 1 covers 3, and 1 covers 2.

c. National level.

The chief of the national organization is the president of the farmers' organizations, and of the agricultural chambers. The organization consists of four sections:

- (1) Agricultural chambers.
- (2) Agricultural organizations.
- (3) Cooperatives.
- (4) Special-purpose professional organizations.

The work is done by an honorary and professional staff. The national level handles only general agricultural problems and international agricultural affairs, and does not influence the farmer directly.

4. *Duties of field workers.*—In Poland field workers have the same duties as those mentioned by Dr. C. B. Smith, in his paper issued in March 1944.¹⁶

... to help the farmer increase his efficiency and income and to help him find satisfaction and growth in rural life for himself, his family, his neighbors, and his institutions. The farmer looks upon the extension agent as a friend and counselor, not as a white-collar official. And that is the way we would have it.

Some concrete objectives of agricultural extension are:

- a. To bring the farmer the knowledge and help that will enable him to farm still more efficiently and to increase his income.
- b. To encourage the farmer to grow his own food, set a good table, and live well.
- c. To help the members of the farm family to a larger appreciation of the opportunities, the beauties, and the privileges of country life, and to know something about the world in which they live.
- d. To promote the social, the cultural, the recreational, the intellectual, and the spiritual life of rural people.
- e. To place opportunity before rural people whereby they may develop all their native talents through work, recreation, social life, leadership.
- f. To build a rural citizenry, proud of its occupation, independent in its thinking, constructive in its outlook, capable, efficient, self-reliant, with a love of home and country in its heart.

5. *Function of the system:*

a. County level.

Every year officials of the county's townships and those of the agricultural organizations, in the presence of the delegates from the agricultural chamber and Department of Agriculture, fix the annual extension program and budget.

b. Provincial level.

After all annual county meetings are over, the province holds its annual yearly meeting of the agricultural chamber, consisting of delegates elected from all counties and agricultural organizations and from the Department of Agriculture. This meeting fixes the annual extension program for the province, which matches and covers the county programs.

¹⁶ SMITH, C. B. WHAT AGRICULTURAL EXTENSION IS. U. S. Dept. Agr. Unnum. Pub. [6] pp. 1944.

The program is carried out through the honorary staff of all agricultural organizations and the professional staff—the county agricultural agents and the provincial subject-matter specialists.

The methods are demonstration, doing, and contest, through the leadership of the foremost farmers, women, and youth. Example: In 1933 the rural population was found to consume many fewer vegetables than the urban. Members of the agricultural chamber at Warsaw decided to solve this problem by organizing vegetable-garden contests among rural youth. The next year many farmers had vegetable gardens for their own use. In the years that followed, the idea was spread to the other chambers, and in this way the consumption of vegetables increased among rural people.

The extension service system is similar to the catalyst in a chemical reaction. It carries the knowledge from research to the farmer. But this “catalyst” is extraordinary in that it not only speeds the reaction, but puts the knowledge into practical form, so that the farmer can digest it.

This reaction, which goes usually from research to farmer, is also reversible, carrying back by the same catalyst—the extension system—problems from the farmer to research for checking and solution.

The Extension Service works also as an emergency agency during flood, famine, and war. Example: In 1936 a few counties in the Cracow Province were entirely flooded. Work with the stricken counties was divided among the agricultural chambers and their normal living was reestablished.

6. *Experiment stations*.—Poland has one national experiment station near Warsaw. This station, which is comparable to the United States Department of Agriculture Beltsville Research Center, has about 5,000 acres and works under the supervision of the Department of Agriculture.

All other experiment stations belong to the agricultural chambers and work as part of their organization. These stations are not comparable to the State experiment stations in the United States as far as size, staff, etc. are concerned. Every agricultural chamber has at least one station. The chamber of Warsaw has three.

7. *Veterinarian faculties*.—Poland had, in 1939, 10 agricultural and veterinarian faculties in the universities of the country, with 3,200 students.

The staff of the extension system consisted mainly of the alumni of these universities.

The extension system worked more closely every year with the agricultural colleges, though both were independent.

8. *Extension literature* was scarce as compared with that available in the United States.

The following additional information was furnished the Committee by Mr. Przedpelski: Of the three or more extension workers in a county, one usually is a woman. Sometimes there are several. One of the county agents is designated as manager or responsible head of the county professional group.

Qualifications of extension workers (both men and women) are that they (a) be reared on a farm; (b) have obtained a college education specializing in scientific agriculture or home economics; (c) have had special county agent courses of about 4 months in length, during which time they receive part salary.

From time to time county agents are given special training to keep them up to date on subject matter. They receive their normal salary during this in-service training.

Inasmuch as the extension worker's job in Poland is one requiring strenuous physical work, professional extension workers are urged to go into the schools or engage in other less-strenuous occupations after 15 years of service as extension workers.

The extension home demonstration agents are concerned with home, hygiene, sanitation, and folklore (home industries based on the provincial culture) programs.

Extension county agents and home demonstration agents both are concerned with gardening, poultry, and dairy programs.

Germany.—Agricultural education and extension organizations include—

1. *Agricultural universities and institutions*, agricultural schools and research institutions indirectly engaged in extension work (mostly state-financed) :

a. Universities and schools :

(1) There are in Germany 3 agricultural universities (Bonn-Poppelsdorf, Hohenheim, Berlin) and 9 agricultural colleges in connection with universities which require 3 years of practical training and a 4-year course before graduation.

(2) There are 12 agricultural seminars and schools that require 4 years of practical work and a 2-year course before graduation.

(3) Approximately 400 agricultural winter schools located mostly in central, western, and southern Germany and open to graduates from elementary schools. (Length of course, 2 winters, November to March.)

(4) Approximately 150 agricultural schools for farm girls require a 1-year course, and a number of home economics schools have a 2-year course.

(5) In addition to the general agricultural schools, there are a number of vocational training schools specializing in certain lines of agricultural activity such as truck farming and dairying.

b. Agricultural-research institutions, such as :

(1) Biologiasche Reichsanstalt fuer Land and Forstwirtschaft.

(2) Kaiser Wilhelm Institute for Plant Breeding, Muencheberg and Dahlem.

(3) Kaiser Wilhelm Institute for Fiber Research, Sorau.

(4) Research institutes in Darmstadt and Landsberg-Warthe.

(5) Research institute in Bornim near Berlin and Pommritz in Saxony for farm labor and equipment.

(6) Research institute for the dairy industry at Kiel.

(7) A number of research institutes related to processing agricultural commodities, such as Institute fuer Gaerungsgewerbe, an institute for sugar industry, institutes for grain processing, and others.

2. Organizations directly engaged in extension work :

a. Wirtschaftsberatungsstellen (advisory councils) in connection with farm credit organizations.

b. Deutsche Landwirtschaftsgesellschaft (D.L.G.).

c. Landwirtschaftskammern (chambers of agriculture) for each province.

d. Landwirtschaftliche Bauernvereine (in western and southern Germany and for small farms exclusively).

e. Agricultural experts and specialists attached to the Landratsamt (district administration).

f. Professors and teachers of agricultural seminars and winter schools.

g. Versuchsringe (experiment groups) and seed-improvement associations.

h. Landwirtschaftliche Vereine (voluntary associations of farmers aiming at individual and community improvements in agriculture).

i. Landwirtschaftliche Frauenvereine (voluntary associations of farm women aiming at individual and community improvement in homemaking).

Most of the forenamed organizations existed before the First World War and have lasted throughout the Republic. Under the Nazi regime the Bauernvereine, Landwirtschaftsvereine, and women's associations¹⁷ have been formally abolished and the other organizations integrated into the Reichsnaehrstand. Yet their individual organizational structures have been largely preserved.

3. *How extension work operates in Germany*—

a. Sonderberatung also called Technische Beratung, or technical advice. Sonderberatung means that agricultural specialists give advice to the farmers but only as far as their special field is concerned. This work was carried out

¹⁷ The women's associations have been replaced by the Nazi N.S. Frauenschaft.

in specialized fields such as drainage, soil conservation, crop rotation, buildings, especially by the Deutsche Landwirtschaftsgesellschaft, Landwirtschaftskammer, Bauernvereine, and specialists attached to the district administration—all now part of the compulsory Reichsnaerstand organization. Farmers pay a fee for this type of service.

b. *Wirtschaftsberatung* (extension proper).—Two types may be distinguished:

(1) Extension work carried out by professors and teachers of agricultural seminars and schools which includes advisory assistance with regard to general farm operations to such farmers as ask for this assistance. Similar assistance with regard to homemaking is given to farm women by teachers of the home economics schools. This assistance is rendered free of charge.

(2) Advisory assistance for the general organization of farms (especially larger farms and estates) and supervision of operation. This kind of work is carried out especially by the farm-credit organizations through a special staff of agricultural experts. There are also so-called private *Wirtschaftsberatungsstellen* (agricultural advisory corporations) whose services in regard to organization and operation of farms may be obtained on a contract basis at stipulated fees. Farmers must also pay for the corresponding services rendered by the farm-credit organizations.

c. Model farms and agricultural exhibitions.

Model farms privately operated by progressive farmers and supervised by the chambers of agriculture, exist in substantial numbers throughout the country. They are open to visitors for the educational benefit of the farmers of the region.

RECOMMENDATIONS

1. On the assumption that the organizations dealing with extension activities will be freed of political domination and purged of politically undesirable personnel (particularly at the top), the Committee recommends that the existing agricultural and home extension agencies continue to be used in these educational functions.

2. Subject to the same general provisions, it is recommended that the local farmer associations (such as the *Landwirtschaftliche Vereine* and *Landwirtschaftliche Frauenvereine*) be revived and fitted into the general extension organization in much the same way as they were before the Nazi regime.

3. After the immediate postwar emergency period, when conditions generally will be unsettled and much attention concentrated on technical problems, it is hoped that the extension system in Germany can also be used as a medium for bringing civic education to the rural population and promoting the establishment of a broad concept of democratic life and international cooperation.

4. Although the authorities should be under an obligation to make available the extension services mentioned, there should be no compulsion for farmers to avail themselves of these facilities. Free individual and group participation in extension programs for improvement of agriculture and rural life should be encouraged and developed.

Guideposts in Extension Work

Extension work in agriculture and in homemaking is a system of rural education, for both adults and youth, whose purpose is to bring about socially desirable change in the persons participating as well as in their surroundings—the home, the farm, and the community.

Preliminary action along the following lines is needed in order to have a framework to which extension principles can be applied to contribute to such desirable social change.

1. Authorization of the project by governing bodies with provision made for voluntary cooperation at each level, from the smallest unit to that at the national level.

2. Delineation of the geographical units to be used, cultural factors being taken into consideration.

3. Determination of immediate and long-time objectives, over a period of 1, 3, 5, 10, 20 years, or more.

4. Consideration of aspects of problems in which the family as a unit should participate in an effort at solution. Consider also the aspects for youth, for men, and for women.

5. Outline of plans for the training of staff members. Determine the number and type of technicians, teachers, and administrators needed and the locality where they will be placed. Comb the territory for the best-qualified native staff members. Make plans for conferences, short courses, etc., to train for immediate future. Plan courses of study to be offered in educational institutions to prepare staff members for the long-time program, such courses to give understanding of basic principles in extension, knowledge of fields of subject matter (agriculture and related fields), homemaking, community life), and training in methods of extension work. Consider plans for possible exchange of staff members between countries.

6. Determine probable availability of supplies, equipment, and labor—quantities, cost, and dates they will be available—before creating a heavy demand.

7. Consider what can be done about class cleavages, where they exist. Make provision whereby each rural person, regardless of class or location, may participate. Study and understand existing channels of communication.

Application of extension principles to the cultural situation in Central Europe:

1. *Cooperation*.—The principle of cooperation has functioned to some degree in each country through voluntary farmers' organizations, mutual fire-insurance and fire-protection associations, the cooperatives, and extension education. Capitalize on this and let the old pattern of cooperation point the way. Build on the sound in the old pattern.

2. *Local responsibility; the principle of participation*.—The voluntary associations of farmers' and the women's organizations that existed before the Nazi regime should be utilized, it being assumed that they can be freed of Nazi domination. Make place for the village teacher to assist in the development of plans in all places where he has the respect of the farmers of the community. The neighborhood unit with its strong ties should be utilized also. Neighborliness as practiced can form the nucleus for volunteer assistance with the program.

The rule of participation could no doubt be employed by building up traditions regarding this educational program; for example, an annual festival or achievement day with reports, playlets.

Search for the successful, respected farmers and utilize their knowledge and prestige in development of plans.

3. *Scientific up-to-date knowledge to be made available*.—Establish an adequate staff of technicians and educators at the proper places, geographically, with freedom from political domination. Research institutes to provide information in problems in homemaking are needed.

4. *Teaching procedures and methods to be varied and adapted to the situation.*—Provide for the making of surveys and for scientific sampling to test outcomes. Understand the established organization habits and attitudes of the people and utilize these to further the program, community by community.

5. *Principles of democracy to be observed.*—Local people should have opportunity to participate in planning and in administering the program, which should provide for voluntary rather than compulsory participation. The program should also provide an opportunity for enrichment of life as lived day by day, and for both individual and group action to achieve those desires for self and for others which are socially advantageous. Tie in with the strong tradition of local self-government.

Provide opportunity through this program for the gaining of skill in use of democratic procedures, applicable in family life, in village government, and elsewhere. Allow participants to express their choice as to program activities and procedures.

6. *A program based on interests and needs resulting through stimulation in an increasing awareness.*—Include in the program at an early date, attention to needs of which the people are aware and with which a good proportion wish help.

7. *Recognition that in rural programs the family constitutes a basic unit.*—Although there are in the cultural pattern in some areas organizations that deal separately with problems of men and women, opportunity should be provided for the family to consider as a unit some of the basic problems.

Summary

Historically and culturally the four countries considered by the Committee on Central Europe have had quite different backgrounds and their experiences during the war have been markedly different. Poland and Czechoslovakia, as occupied countries, have suffered severe losses and considerable impairment of their potential for agricultural production in the future. The agricultural organizations and extension services that existed in the occupied countries prior to the occupation are still in existence, according to underground reports, and these can provide a nucleus for development in the postwar years. In Germany many of the organizations that existed before World War I and lasted through the Republic were formally abolished or integrated into the Reichsnaehrstand, but their individual organizational structures have been largely preserved. After they are freed of political domination and purged of politically undesirable personnel, especially at the top, it is assumed that the existing agricultural and home extension agencies can continue to be used in these educational functions.

The extension organization included professional and lay leadership at all levels and cooperation between the central government and local government units, as well as cooperation among public, private, and semipublic agencies. Extension work was done through chambers of agriculture, other agricultural organizations, cooperatives, educational and cultural organizations, and these provided a large measure of local participation in activities and programs. In Czechoslovakia extension work was very closely related to educational

and cultural activities, especially those of the schools and cooperatives. In Poland the work at the county level was carried on through professional workers who represented various agricultural specialists, and through volunteer workers from farmers' organizations, women's organizations, and youth organizations. The chief of the county extension system was the president of the county agricultural organization. In each of these countries a number of groups were organized around special agricultural interests, such as livestock and crop improvement, and homemaking. In each of these countries also, the local cooperatives were highly developed, and many of them sponsored extension activities.

Much of the work of the extension organizations was closely related to the work of the schools of elementary, secondary, and college grade, the special agricultural schools as well as the public and private schools. The teachers in rural areas were the carriers of much of the extension activity. In many villages, the school provided the only readily available meeting place. More and more the village school had become a center of information for the adoption of new ideas and new methods.

In Poland and Czechoslovakia war losses in agriculture have been severe. Although agricultural production in Czechoslovakia has been maintained at a high level, many individuals and many areas have suffered severe losses of livestock, machinery, deterioration of buildings and equipment. In Poland, not only have livestock numbers been sharply reduced, but machinery of certain categories as well, besides widespread destruction and deterioration of buildings and destruction and transfer of agricultural resources. Considerable mining of the soil has been done in recent years in all these countries, and despite the relatively high current level of agricultural production, the impairment of the agricultural-production potential is widespread. All these countries have suffered severe losses of manpower.

Many of the agricultural organizations active prior to German occupation have been disbanded and had their property confiscated by the Germans. In each of these countries, including Germany, some of the former leaders were killed or exiled. Such losses have been especially severe in Poland. In the occupied countries, appropriate restitution is considered a prerequisite to the development of agricultural activity and agricultural extension. This problem, it is assumed, will be dealt with by competent international agencies.

In the occupied countries, a large part of the educational and research activities were stopped. Under the Nazi regime, only technical agricultural education was permitted to continue. In Poland, even technical agricultural education was discontinued in the national program. Because of the need for agricultural production, some forms of technical agricultural education were given considerable emphasis in Czechoslovakia, Germany, and Austria, and in some parts of Poland, but since the occupation, Poland and Czechoslovakia have been isolated from the outside world and its progress and research. They have been dependent almost exclusively on German scientific sources. They have not had access to outside agricultural literature, new techniques, and educational media, such as films depicting the application of scientific farming methods and bringing out human values and characteristics of democratic rural life. The training of agricultural experts has declined substantially.

As against the severe losses of agriculture, some gains have occurred in relation to future extension programs. In the areas where agricultural production has been fostered, emphasis has been placed on the application of scientific developments to increase agricultural production. Large demands for agricultural products have led to a variety of devices (often including compulsion) for increasing production. Some of the new practices represent gains in efficiency. It seems likely that agricultural people will not want to discard many of the more efficient practices they have learned. To the extent to which new practices and new crops have represented improvements for them, these people will, no doubt, be more receptive to further instruction and assistance, provided it is freed of the compulsion with which it has been associated in recent years.

In some parts of these countries, agriculture, which before the war was largely on a subsistence basis, has become production for the market, even though that market is to a large extent a government-controlled one. This change in the orientation of farmers is likely to have significant effect on their willingness in the future to accept the suggestions and assistance an extension service can give them. Effects of the break with traditions of their past, which the recent experience has provided, probably will not be nullified, even when the current controls are removed.

Development of the techniques of promotional campaigns and of aids in the conduct of such campaigns has affected not only agriculture, but all other elements in the nations as well. Developments in the use and accessibility of the radio as a channel of communication have been striking except in Poland, where the Nazis banned receiving sets in rural villages. Use of films and adaptation of printed matter for mass appeal have developed rapidly. These media can be made to serve extension programs in time of peace and will be popularly received in the rural areas of Central Europe after rural people have become convinced that these devices are being used not as tools of political propaganda but for the economic and social betterment of rural people.

A major postwar problem for Germany is ideological reorientation. The problem of restoring democratic procedures in private and semipublic organizations, whether engaged in agricultural or non-agricultural activities, will be one of considerable difficulty. Technical education has been one of the tools through which the Nazi ideology has been spread, and so far as possible every organization and activity has been bent to the purposes of the Nazis. However, many of the basically democratic agricultural organizations have survived numerous political changes since before World War I. The superimposition of political functionaries and the substitution of politically approved leaders for leaders who did not meet the political qualifications are believed largely to be superficial changes, and many of the organizations concerned can be revived and fitted into a general extension organization much as they were before the Nazi regime came into power. In rural areas in the occupied countries, and in some parts of Germany, strong community sentiment will serve to identify readily those persons with whom a reorganized extension service can cooperate and those who by their actions and affiliations have forfeited all claims to local agricultural leadership. In many

instances the necessary changes in personnel will require appropriate assistance from the central government.

An important element in reorientation will be the removal of compulsion—compulsion to produce specified products, deliver specified proportions of the total production, change methods, share in the management of the farm or turn it over to others entirely, participate in numerous activities and to do many other things. Free individual and group participation in extension programs for individual and community improvement of agriculture and rural life will be an essential part of the setting for extension work.

Because in the past the extension work was closely related to educational and cultural activities, the extension system, it is hoped, can also be used as a medium for bringing civic education to the rural population and promoting the establishment of a broad concept of democratic life and international cooperation.

In Poland and Czechoslovakia, extension work in the past has been closely related to cultural and educational programs, but in Germany it has been somewhat more restricted to technical agricultural and farm-management matters. In Czechoslovakia, for example, Masaryk Institute for adult education at Prague, which supervised 17 peoples' universities (free evening courses in different communities), supplied the necessary equipment and distributed films and slides. Courses in health, prenatal care, home economics, and dietetics were organized by the Czechoslovakian Red Cross in rural communities. The cultural institutes and organizations active in extension work were the Sokol, the Orel, the Workers' Gymnastic Association, and Osvetove Svazy (cultural unions), which assisted in all counties and large communities. This work was carried on with the help of a large number of unpaid volunteers and of organized local communities. Every student, teacher, professor, and professional worker was expected to share in it. Extension work among the rural populations can be made a supporting instrument in the general educational program. Such a program, we may assume, will be begun as soon after liberation as possible, in order to bring about an appreciation of democratic and human values by the populace, especially the younger generation upon whom Nazi indoctrination has made the most serious impacts.

In each of these countries an emergency period will come, when relief and rehabilitation will be a primary need for rural areas and rural people. During this transition period, the extension service should be used as an emergency agency, and all programs for reconstruction and rehabilitation in agriculture should be carried on in cooperation with the extension program. Because of the position it occupies in rural areas, and because, to a large extent it has the necessary technical personnel, the extension service can best perform many or all of the services needed during this period. By engaging in this type of emergency activity, the service can also contribute to agricultural rehabilitation. The extent to which extension workers will need to devote their energies to such activities will vary with the degree of need for immediate relief. Through their appropriate planning and leadership, the development of the most effective long-range educational activities can ultimately be attained. Moreover, it is often difficult to make a clear segregation between long-range educational activity and immediate relief activity.

Committee Findings

1. After the immediate postwar emergency period when conditions generally will be unsettled and much attention concentrated on immediate technical problems, it is believed that the extension service can and should become a medium to bring civic education to the rural population. Democratic ideas of rural life and democratic procedures should be encouraged through the method of organizing extension work and the manner of conducting it, and through incorporating in extension work social and cultural knowledge and activities.

2. On the assumption that the organizations dealing with extension activities will be freed of political domination and purged of politically undesirable personnel (particularly at the top), it is believed the existing agricultural and home extension agencies can and should continue to be used in these educational functions. It seems desirable also to revive local farmers' associations in existence before the Nazi regime came into power and to fit them into the general extension organization much as they were before that regime.

3. All work in agricultural extension should recognize and preserve the unity and integrity of the family in the development of its programs.

4. The use of honorary (unpaid volunteer) local leadership in extension programs should be encouraged and developed. Free individual and group participation in these programs should be encouraged and developed.

5. Extension services and other organizations provide a means for carrying on reconstruction and rehabilitation in rural areas in war-torn countries. The Committee believes that extension services and other organizations should participate in the conduct of action programs for immediate relief and rehabilitation to the extent necessary in the respective countries.

6. The extension services should be given responsibility for assisting repatriates and other resettled groups. They should develop agricultural programs adapted to respective areas and establish educational programs to assist the settlers in their adjustment to the new environment and development of a satisfying family and community life.

7. There should be close collaboration between agricultural extension services and other agencies carrying on public-health, public-welfare, credit, cultural, educational, and rehabilitation programs in rural areas.

8. The close relationship that has existed between agricultural extension activities and all phases of the general educational system should be recognized in the planning and development of any extension activities.

9. New developments in modern means of communication and in techniques for mass education and newly developed physical aids for adult education should be made available to agricultural extension services.

10. It is the responsibility of central governments to assist in making agricultural extension services available to all areas and to all people through the devices for cooperation between the central government and local public, semipublic, and private groups that are

appropriate to the country. However, there should be no compulsion for farmers and others to avail themselves of these facilities.

11. Means should be developed to make available the services of specialists in agriculture and homemaking and training facilities in countries needing such assistance.

12. The formulation of programs for the development and strengthening of agricultural extension work in central Europe and exchange of experiences in extension work among different countries of this and other regions of the world should become a continuing activity of the appropriate international organization.

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The Northern Countries

Introduction

THE NORTHERN COUNTRIES have in common certain social characteristics bearing upon extension work. As to the economic factors, there are both similarities and contrasts.

In the social field, it may be noted first of all that literacy is high; illiteracy is almost unknown. Education is provided for all children regardless of their financial status. All these countries have a strong adult-education program. Language throughout the area has considerable similarity, although the Icelandic language differs more from the other Scandinavian languages than they differ from one another. A basis for the similarity of cultural background in the northern countries is found in their long tradition of individualism—in agriculture particularly and in political and social life generally—and their long tradition and experience in democratic institutions. Throughout the centuries these countries have lived according to democratic principles, barring an occasional detour into autocracy from which sooner or later the people rescued their countries.

The northern countries also have a high level of scientific and economic education and a strong desire for knowledge, all of which aid in the development of extension work.

The effects of scientific progress have been demonstrated in agriculture in many ways, including increased productivity of the land,

particularly in recent years. Much of this increase in productivity is based upon the application by the farmer of the results of scientific research.

The first thing to remember regarding the economic part of the socioeconomic picture is that some of the countries are surplus producing while others are deficit producing. In the prewar years, Norway produced a little more than 40 percent and Sweden about 90 percent of their food requirements, while Denmark produced a great deal more than was consumed of some products, although certain foods and feedstuffs were imported. Finland produced from 80 to 85 percent. If the Soviet-Finnish armistice terms recently published represent as closely the peace terms of 1940 as appears in current reports, Finland's self-sufficiency may be reduced to about 70 percent, perhaps even less. These self-sufficiency "ratios" represent among these countries real differences that have a bearing on extension work.

On the farms also for the most part a relatively high standard of living prevails, although it is more variable in Norway and Finland than in Denmark and Sweden. The life of the middle class farm-owner family in some of these countries in normal times is similar to that of successful farm families in the United States. Most farmers own their farms and live on them, particularly in Denmark, Norway, and Sweden, rather than in villages as is true in the other countries to the south. In these Scandinavian countries electricity, telephones, and radios are the usual thing in farm homes.

In all these countries men and women cooperate on common undertakings. For example, women have equal rights with men and are used to accepting responsibilities of all sorts. Education is on a co-educational basis in many parts of these countries. Youth become independent early and often initiate undertakings for their own benefit.

Throughout all the northern countries, much progress has been made in social legislation, particularly in Denmark and Sweden. In fact, many phases of social legislation just being discussed in the United States have been under way in some of these countries for 30 years or more.

Physical development in the nature of sports, exercises, and contests is stressed throughout Scandinavia and Finland. Much has been done also to obtain medical care at low cost. Hospitalization is provided for all citizens at small cost to the individual. In addition to these services, provision is generally made for care in old age.

Important physical differences occur in these countries. In Denmark most of the land is fully tilled, as in certain parts of the other countries. But in a large part of these other countries, agriculture is confined to small or scattered areas suitable for tillage. Agriculture in such areas is only a partial source of the income; the people on these farms derive the rest of their income from forestry, fishing, local industries, and other similar forms of occupation.

As to extension work, one thing to be remembered about Denmark is that private organization and effort play a large part in extension through farmer's associations, and came before government effort in extension.

Another broad characteristic to bear in mind is that governmental support for extension work is carried out in large part through farmers' organizations. Much of the administrative responsibility rests

with these private institutions, the Government providing certain funds. In Denmark the ratio of government funds to other funds is lower than in the other countries in the group. With reference to our closest Scandinavian neighbor, Iceland—one of the world's oldest democracies and the newest of the world's republics—actual conduct of extension work is similar to that of the other countries that are more important agriculturally.

In these countries, the extension systems already under way provide for employed personnel corresponding roughly to our county agents, local organization, utilization of local leadership and youth organizations on a pattern bearing considerable resemblance to our own. 4-H Club work has been adopted in Denmark, even the four letters on the club emblem, because each of the corresponding words in Danish as in English—head, heart, hand, and health—begin with the letter "H."

As to guideposts for extension work in these countries, the chief point to consider is, that the extension methods and organization that have worked in the past should and probably will be applied in the future. The well-recognized principles in extension work such as those involved in local volunteer leadership, the use of the demonstration, individual and group participation, and recognition of individual and group accomplishment, are applicable in these countries as elsewhere.

Attention may be called to some of the problems resulting from the war. Denmark was occupied early. Her agriculture has been modified—more emphasis on food crops, less on livestock. We understand that Danish cooperatives have not been seriously interfered with, and Denmark's agriculture has not been significantly impaired thus far. In Norway, the effects have been more drastic, yet certain lines of agricultural production have been materially increased; others have sharply decreased. In Sweden, which has not been subjected to military occupation, agriculture has, of course, been affected by the country's economic isolation. No real privation has existed. That country has increased the consumption of milk, no doubt with good nutritional effect upon the population. In Finland, the situation is different. Should Finland lose about 12 percent of her agricultural resources, her food problems, as mentioned earlier, would be greatly increased. The Finns are confronted with the need for intensified use of science and education in eking out as much as they can from the land still left to them.

The great opportunity to draw upon their cultural heritage to mend the damages of war after the enemy is defeated will be a challenge to all these countries. In this, much depends on the aid science and education can give to the recuperative powers of agriculture.

Denmark

The Country

Denmark is situated between the North and the Baltic Seas. It contains 17,000 square miles, and is approximately the size of the combined areas of Massachusetts and Vermont. The climate is cool and temperate, with mild winters, cool summers, and high humidity. The average precipitation is 24 inches, about the same as for California; because of the humidity, this is adequate. Denmark has only one important natural resource, the soil, which is not particularly

fertile, but by scientific care has been brought into a high state of productivity. Approximately 90 percent of the country is productive, and of this about 83 percent is under the plow.

The People

In 1940 the population was 3,844,000. It is homogeneous, with a common cultural background, language, and religion, and an unbroken history leading back to ancient times.

Occupations

In 1930 the population was grouped occupationally as follows: Agriculture, 1,029,000; forestry, horticulture, and fisheries, 80,000; industry, 1,016,000; commerce, 380,000; transportation, 250,000. In 1937, agricultural produce accounted for three-fourths of the value of the total exports from Denmark. From the standpoint of income, agriculture is the most important aspect of Danish economic life.

Culture

Feeling and grace rather than force characterize Danish music, painting, and sculpture. The literature is made up of short stories, fairy tales, and lyric poetry rather than of great dramas. All this reflects Danish character. In the course of history, the Danes have learned to develop in place of force the more humble virtues of small nations—intelligence, keenness, adaptability, and persistence. They have had a feeling that they cannot afford to neglect any individual. Through cooperation among farmers and social legislation for industrial workers, the unfortunate are helped by the more fortunate. The very nature of these Scandinavian people helps to explain why the cooperative movement, the folk high schools, and a highly developed system of social legislation have been outstanding features of Danish life.

Education

Denmark was one of the first countries to establish compulsory education, which was effectively carried out as early as 1814, giving the rural population the requisite schooling. Modern Denmark is largely the work of educators, consequently the Danes are a highly literate people. Danish education is largely democratically controlled and has the double purpose of development of Danish democratic culture and economic efficiency.

Seven years of elementary education are compulsory and are tax supported. After this, most rural Danish children attend a folk high school, which is the most remarkable form of schooling in Danish education. This school is specifically Danish, and in conformity with the nature and mentality of the people. It has always maintained the view that its mission is to win the young for Denmark and to shape the Danish spirit as a power in their minds. It has endeavored to give a clear-cut impression of the people's distinctive features and their national treasures. Attendance is voluntary and a tuition fee is charged.

Most young men who plan to become farmers serve for several years as apprentices on farms. This apprenticeship is often followed by training in a school of agriculture where, by intensive methods, these young men are given training in the basic sciences that underlie

the farm practices they have been carrying out during the period of apprenticeship. These schools are voluntary and students meet their own expenses.

For the limited number of men and women who desire to enter the professions or are capable of doing advanced work in the arts and sciences, the universities of Denmark offer superior advantages.

Agriculture

Denmark is a country of middle-sized farms. Although 52 percent of these farms are under 25 acres, they constitute only 17 percent of the agricultural land; 46 percent are from 25 to 150 acres and cover 68 percent of the land; and 2 percent are over 125 acres. The predominance of small and medium-sized farms is no accident of history. It has come about as a result of purposeful development and national planning, largely in the past 100 years. Under national legislation the present pattern of land holdings was established by financial assistance to the peasants, who became owner-operators of the small farms. Of all the land holdings, 95 percent are now farmed by owner-operators. This is one of the most successful examples in the world of economic planning on a national scale. It has transformed the former illiterate and inefficient Danish peasants into efficient, self-reliant farmers, prepared to work hard at an undertaking they feel to be their own. Each farm is, as a rule, in a single piece with its own farmstead. Both custom and legislation operate to prevent the subdividing of Danish farms through inheritance. Danish farms are characterized by high production, scientific treatment of the soil, and the use of modern farm machinery. The relatively high standard of living on Danish farms is made possible through the sale of bacon and dairy and poultry products. Grain and other crops are used to feed livestock and poultry. The Danes are large consumers of sugar which they produce from sugar beets.

Cooperatives and Other Farm Organizations

The emphasis, however, is on efficient education for the masses. Out of this education of the common people the Danish cooperative movement was born and has flourished. The first producers' cooperatives were butter and bacon factories, started in the early eighties. The first consumers' cooperative was started in 1861. From 1885 to 1890, 511 cooperative dairies were built. Ten years later the first cooperative society for the purchase of feedstuffs, fertilizers, and seeds was established. In 1936, Denmark had 2,289 production and sales cooperatives and 2,901 purchasing societies. Most farmers belong to several cooperatives, which handle the greater part of the agricultural output. In 1936, these cooperatives handled 91 percent of all dairy products sold; 86 percent of all bacon processed and sold. They purchased 67 percent of all feedstuffs, 40 percent of all seeds, and 38 percent of all fertilizer used. What producer and processor being one organization has meant technically and economically can hardly be exaggerated. It has made possible constant improvement in quality and in the reduction of cost both at farm and processing plant. It has been of particular importance to the small farmers, as so well expressed in the statement: They would not have had a chance on little farms this size if it had not been for pigs, poultry, dairy cows and cooperation—these four, and the greatest of these is cooperation.

Some farmers' societies in Denmark embrace practically the entire farm population. The federation of these farmer societies and the federation of cooperatives constitute the Agricultural Council of Denmark, which advises the Government on all agricultural policies. These societies are educational institutions. They organize lectures, discussion groups, demonstration plots, excursions and competitions for the improvement of farm life. Of peculiar importance is the fact that these societies, controlled and supported by the farmers, appoint and pay full-time agricultural advisers, whose sole job is to go about meeting farmers and advising them on their problems. Altogether, according to the last reports, Denmark has 365 such advisers. In addition, she has about 200 specialists in the fields of livestock, crop production, farm accountancy, etc. These specialists usually are graduates of the Royal Agricultural College of Copenhagen.

Along with these services for the farmer, although not developed to the same extent as those for agriculture, are similar ones for the homemaker. Constantly increasing numbers of young women receive in schools of housewifery, theoretical and practical instructions in cookery, house cleaning, laundry, clothing, interior decoration, hygiene, and infant care.

Agricultural Education

In the last third of the nineteenth century, the present-day agricultural system of specialized livestock farming was developed in Denmark. As overseas countries increased their grain production, Danish farmers found it to their advantage to intensify and expand their livestock enterprises. But this expansion gave rise to many new problems; for example, how to grow new feed crops, use expensive concentrates for intensive feeding of livestock, and operate the new cooperative dairy plants.

The need for research and education in matters of this kind produced the men and later the institutions to help the farmers solve their problems. Therefore, this early period of agricultural development is also the time when the framework was constructed for the system of education, particularly of research and extension work, existing in Denmark today.

The Royal Agricultural College at Copenhagen, founded in 1856 as an expansion of a veterinary college established in 1773, is the only institution offering university education in agricultural subjects. The agricultural course is of 2 $\frac{2}{3}$ years' duration. Graduate work is also offered.

At the end of the First World War the college was expanded somewhat. It had by then become a school for agricultural advisers and government experts. Few of its graduates return to farming.

Farmers obtain their theoretical training at agricultural schools. These are private schools receiving government subsidies. They have close contact with farmers, farm life, and farm work. No examinations are held at the end of the course, and no practical farm work is done by the students. Such experiences must be acquired beforehand. The schools, however, are all situated in the countryside, and attached to each is usually a middle-sized farm, the management of which the students may observe. The most popular courses are a 6-month winter course and a longer course lasting 9 months.

Two of the schools, in addition to the common agricultural subjects, teach manufacturing of dairy products, and four of them specialize in horticulture.

Four schools cater especially to sons and daughters of small holders; the others draw their students largely from the families of holders of middle-sized farms.

Besides the training to be had in the regular agricultural schools, courses in agricultural subjects are offered in the well-known folk schools for adult students and to young people beyond school age who take advantage of evening courses at the local schools. Although many opportunities are afforded to obtain an education in agricultural subjects, there is no general, government sponsored, regularized scheme for such education.

The informal education of the farmer, however, should not be underestimated. He obtains education in his active life as a farm manager through short courses of schooling, exhibits, and fairs, by local excursions and travel further afield to observe how farming is done in other areas, and through the continuous information service provided by the farm press and the radio service.

Agricultural Research

Before the First World War, 16 experiment stations were conducting research in plant industry in Denmark. They were so located as to take account of differences with respect to climate and soils, and a certain amount of specialization among the stations had developed. After the war, two new stations were set up in north Slesvig after that old Danish province, conquered by Germany in the Bismarckian era, was reunited with Denmark. Results of experiments conducted in soil improvement and fertility, and tilling and cultivating practices have exerted a profound influence on common present-day practices on Danish farms. Many new improved varieties of plants have emerged from these stations, but in this respect the work has been supplemented by private plant breeders.

New buildings with improved facilities have been provided at Lyngby and Copenhagen for research and testing work in soil chemistry and bacteriology, plant pathology, and seeds.

Animal husbandry since 1883 has been the most important part of the work of the agricultural research laboratory founded in that year. This expanded considerably during the interim between the First and Second World Wars. Permanent facilities have been provided at two state-owned large farms near Hillerød, north of Copenhagen, and at this place an experimental dairy plant for dairy manufacturing research has been erected. As previously done in plant culture, the agricultural associations have taken up work in animal husbandry—feeding and breeding experiments with pigs.

Although in general, in the period between the two World Wars agricultural technical research expanded considerably, this expansion was a continuation of the development and took place mainly within the framework of institutions developed since the early 1880's.

Extension Work

1. *Agriculture*.—The extension service in Denmark is of long standing. The early advisers were appointed in the 1860's and the 1870's by the Royal Agricultural Society and in the 1880's by the Govern-

ment. But of vastly greater importance is the much larger body of extension workers employed by the farmers' associations—the farmers' societies, the small holders' societies, and the provincial and national federations of these organizations.

By 1900 the whole system as it exists today had been developed, and extension work had become an integral part of Danish agriculture. Since 1900, the number of extension workers has increased and more specialists have been employed, but the system is essentially the same as before. In 1937 there were in all, 336 "consultants" specializing in land reclamation, agricultural engineering, agronomy, animal husbandry, manufacturing of dairy products, horticulture, fruit farming, poultry farming, and farm accounting.

The advisers are graduates of the Royal Agricultural College at Copenhagen. Educated both in agricultural practice and theory, they are able to help farmers solve the many technical and economic problems that arise on farms managed and operated in an up-to-date way. The advisers are employed by the agricultural societies, but state subsidies defray almost 50 percent of their salaries and expenses.

In all three fields—education, research, and extension work—no radical departures from previously established lines of development have been taken in the interim between the First and Second World Wars but the facilities available have increased considerably and the work has been done more effectively.

2. *Homemaking*.—In Denmark, home economics extension work is conducted largely through such organizations as the associated Danish home-management societies—De Samvirkende Danske Husholdnings Foreninger. This organization was founded in 1921 and consisted of 90 societies in 1930, with 7,000 members.

The societies have the following objectives:

- a. Guard the interests of housewives, and further economy in the home and in the community at large through courses and lectures.
- b. Promote home industry among both young men and young women.
- c. Buy cooperatively.
- d. Work for the increased utilization of garden products.
- e. Conduct food tests.

The Danish Housewives League has a membership of 15,000 women and is affiliated with the Northern League of Housewives.

The territory of some of the societies covers several districts; that of others is only one parish. Traveling instructors are employed for home-management work and for needlework, part of their salaries being paid by the state and the rest by the association. A meeting of local associations is held each year, when the policy of the society is decided and plans are made for the coming year.

3. *Work with rural young people*.—Extension work with boys and girls was developed in Denmark from a small beginning made in 1913 by a few agricultural societies in organizing farm boys to receive technical instruction in agriculture. The object was to arouse an interest in farming and a desire for proper training for their future calling. The attention of the Danish Ministry of Agriculture in 1921 was called to boys' and girls' club work as conducted in the United States. The procedures which then took place are suggestive of what might be done in any country in helping to develop further extension facilities. In June 1923, the Danish agricultural attaché in a report to the Ministry of Agriculture on collaboration between the United States and Denmark in technical agricultural work, stated that ar-

rangements had been completed with the International Education Board for sending F. P. Lund, Danish-born, a member of the Office of Cooperative Extension Work in the United States Department of Agriculture, to organize boys' and girls' clubs in Denmark according to the American plan. In October 1923, he attended a meeting of the Agricultural Council which the Ministry of Agriculture had entrusted with making arrangements for starting the work. In this meeting the Secretariat of the Council was charged with assisting Mr. Lund to become acquainted with Danish conditions and to get in touch with organizations especially interested in the training of farm youth in this way.

During the winter of 1923-24 he held a series of meetings and demonstrations, including an 8-day home economics meeting, to explain the character and object of club work. In February 1924, representatives of the agricultural and education departments, the Royal Agricultural Society, the Agricultural Council, the local agricultural societies, and other bodies met to discuss matters relating to the organization of boys' and girls' clubs in Denmark. The work was started under Mr. Lund's direction in the spring of 1924, and during that year 700 boys and girls were enrolled from 13 districts. The next year there were 1,500 club members from 13 districts. In 1926-27, 6,605 young people were engaged in club work—3,524 boys and 3,081 girls. The four-leaf clover with the letter "H" on each leaf was adopted as their emblem, as the Danish words for head, heart, hand, and health are Hoved, Hjerte, Haand, and Helbred.

From 1924 to 1926, Mr. Lund was responsible for the conduct of the work, the principal part of the expenses being covered by a grant from the International Education Board. Early in 1926 negotiations were conducted with the board which resulted in the appointment of a national committee for continuing the work begun by Mr. Lund. The Ministry of Agriculture chose a professor in the Royal Veterinary and Agricultural High School as president of the committee, and requested the Associated Danish Small Holders' Societies and the Associated Danish Agricultural Societies each to name two representatives. Accordingly, the former appointed a small holder and an adviser and the latter, two school directors to represent them on the committee. In September 1926, at the request of the Royal Danish Agricultural Society, a representative of their association was added in the person of an agricultural high school director, and a month later the only woman member of the committee, a directress of a household-management school, was appointed to represent the Associated Household Management Societies. The functions of this committee of seven persons known as Landsudvalget for Landøkonomisk Ungdomsarbejde (National Committee for Aiding in the Advancement of Young People in Agriculture Work) include:

- a. Instruction in the methods of adapting principles of American boys' and girls' club work to Danish conditions.
- b. Instruction in planning and executing young people's work in agriculture.
- c. Supervision of the work.
- d. Drawing up a yearly budget.
- e. Administration of funds contributed by the International Education Board.
- f. Publication of an annual report.

Wartime and Postwar Problems

During the war Danish extension workers have had to carry a heavy load because so many problems of adjustment were thrust upon farm-

ers. The country has been prevented from receiving customary imports of concentrated feeds, phosphatic fertilizers, and a number of other less-important agricultural supplies. A shortage of concentrate feeds has led to some reduction in livestock herds. The reduction has been most severe for grain-consuming animals such as pigs and poultry, but the number of cows has also been reduced, although to a lesser extent. Close economy regarding home-grown feeds has been necessary, especially the greatly reduced supplies of concentrate feeds available for dairy cattle. Thus under these conditions numerous problems have arisen in the field of feeding and management of the herds.

Increase in production of certain kinds of seeds in which the country previously was not fully self-sufficient has been necessary; and as phosphatic fertilizers have been extremely scarce, the problem has arisen of how to use the very limited supplies most effectively. In addition there has been a shortage of labor, of draft power, and of certain kinds of machinery. The list of problems could be continued at great length.

In the postwar period new problems will develop, but perhaps less difficult ones on the whole, because although Danish agriculture has been modified to a considerable extent during the war, the general system of livestock farming prevailing before the war has not changed. Likewise, the postwar situation will call for the restoration and further development of that system with which research and extension workers are thoroughly familiar.

However, Danish extension workers will always be keenly interested in increased use of machinery and other means of improving the techniques of growing feed crops, such as small grains, sugar and fodder beets, pasture and hay crops, in the conservation of these crops for winter feeding, and in any new developments with respect to livestock breeding, feeding, and management. They will also be interested in new techniques, technical and economic, of dairy manufacturing and marketing of livestock, meats, milk and dairy products, and eggs and poultry products.

In addition, extension workers in Denmark will want to know about any new developments with respect to the methods and techniques of carrying information to farmers, whether they be through the old familiar methods of short courses, meetings, and demonstrations, or the new media of radio and films.

Certain features of the well-developed extension work carried on in the United States in meeting the problems of the home, particularly in relation to health, nutrition, clothing, and housing will also be of interest in connection with the organizations already under way for homemakers and for rural young people.

Finland

The Country

Prior to the war, Finland had a land area of 134,557 square miles. Of this area, according to a general survey of 1922-24, 11.8 percent comprised tilled land, building sites, roads, storage areas, etc.; 73.5 percent, forests; and 11.7 percent wasteland such as swamps and falls.

Finland is an agricultural country. The latest available statistics—those of the census of December 31, 1930—show that 59.6 percent

of the population obtains its livelihood from farming. Most of the farms are small and privately owned. Private ownership plays an important part also in forestry, for more than one-half of the forest land is owned privately, mostly by farmers.

Until the close of the nineteenth century, husbandry of the soil in Finland was confined mainly to the cultivation of grain, chiefly winter rye, barley, and oats. Potatoes and leguminous crops were grown widely also, though on a somewhat restricted scale. Meadowland and natural pasturage furnished the bulk of procurable fodder. The cultivation of wheat was practically negligible.

At the opening of the present century, duty-free cereals from America and Russia lessened the profits in grain. Coincident with this situation, the price level of dairy products and their export possibilities improved. As a result the one-sided cultivation of grain was abandoned in favor of animal husbandry.

Since the establishment of the Republic in 1917, the tendency has been toward intensive agriculture particularly with reference to crops previously grown on a small scale, or not at all, and requiring careful attention.

The output of spring wheat has increased greatly, and the sugar beet was introduced after the First World War. The area of tilled land has increased, and its yield of fodder has become steadily greater in comparison with that derived from meadowland.

Vegetables, though limited in range because of the severe climate, are grown practically throughout the Republic. Near the large population centers, vegetable gardening is carried on extensively both in the open air and in greenhouses. Fruit farming is confined mainly to hardy varieties of apples and to the cultivation of berries, particularly gooseberries, raspberries, currants, and strawberries.

With reference to drainage, the open-ditch system is in general use. Underdrainage is employed on only about 100,000 hectares or 4 per cent of the cultivated area. Cattle manure is the main fertilizer.

Animal husbandry, as already indicated, is of paramount importance. The chief farm animals are horses, cattle, pigs, sheep, and, in the north, reindeer. Milk is the most important farmyard product and furnishes one-half of all agricultural income.

Poultry raising has grown extensively during the last decade making the exportation of eggs, in spite of large domestic consumption, an important item of trade.

The raising of fur animals, particularly silver fox, blue fox, and mink, is comparatively new. With a favorable climate and reasonable fodder costs, the prospects for the future of this branch of farming are good.

On January 1, 1938, Finland had a resident population of 3,620,000, of which about $\frac{1}{5}$ lived in towns and about $\frac{4}{5}$ in rural areas. A little less than 90 per cent of the population speaks Finnish; about 10 per cent, Swedish; and less than one-half of 1 per cent other languages. Instruction in elementary schools is given in the mother tongue (Finnish or Swedish) of the majority of the pupils of the school. At Finnish secondary schools Swedish is taught as a second language, and at Swedish secondary schools Finnish is the second language. Thus many people in Finland are bilingual. The great majority of the people are Lutheran. Distribution according to occupations in 1930 showed that approximately 60 per cent of the population was engaged

in agriculture; 17 percent in industry; 4 percent, in transport; 4 percent, in commerce; and 15 percent, in other occupations.

Organized schooling in Finland begins in a 6-year elementary school comprising a 2-year primary and a 4-year higher elementary school.

In 1937-38 there were 233 secondary schools of various types, including 47 lyceums. The lyceum is an 8-year secondary school based on 4 years of elementary schooling. Completion of secondary schooling is marked by a certificate for having passed the student examination. This qualifies for admission to a university.

Finland has three classical universities: The State University at Helsinki and two private universities in Turku, one for Finnish-speaking students and the other for students who speak Swedish. Among other institutions of university rank are the Technical College at Helsinki, a Finnish commercial college, a Swedish commercial institute with a college section, a commercial college attached to the Swedish University at Turku, and the Sociological College at Helsinki.

Agricultural Research

Agricultural research is carried on mainly by the Agricultural Experimental Institute at Dickursby. This is a state institution comprising a department in each of the following: (1) Agricultural chemistry and physics, (2) soil research, (3) plant cultivation, (4) plant breeding, (5) livestock keeping, (6) livestock breeding, (7) plant diseases, (8) injurious insects, and (9) horticulture. Eight district experiment stations are in operation in various parts of the country. Experimental work at government expense is conducted also at a pig-farm station, an experimental pasture farm, and an experimental dairy institute. In addition, state subsidies for experimental work are granted to the plant-breeding institute of the Hankkija central cooperative society at Tamisto and to the League of Experimental Societies.

Investigations in agricultural economics are conducted by the agricultural statistical office and the agricultural research office, both under the supervision of the Government. State support is granted also to the Marketing Research Institute of the Pellervo Society.

Agencies concerned with inspection include the Government seed-control institution, the state agricultural chemical laboratory, the State butter control laboratory, and an institution for the inspection of agricultural machinery.

Education

To meet the needs of its people, Finland has various types of lower agricultural schools. For admission to these schools the student must be at least 17 or 18 years of age, have at least an elementary school education, and have completed from 5½ months to 1 year of controlled, practical work. Included are 6 agricultural schools offering a 2-year practical-theoretical course intended mainly for independent farmers and foremen of larger farms; 28 Finnish and 3 Swedish schools for farmers and small holders, offering a 6-month theoretical course adapted to the needs of the locality; 17 theoretical and 12 practical-theoretical schools for the care of domestic animals which give a 5½-month winter course. Most of the former are for women. In addition, 8 ambulatory schools for boys for the care of domestic animals give short courses of 2 months each.

Among other lower agricultural schools are 5 dairy schools giving a 1-year course requiring 2 years of controlled practical work, and gardening schools with 1- and 2-year courses.

In addition to lower schools of agriculture, Finland has 1 Swedish and 3 Finnish secondary schools of agriculture called institutes, which give a 2-year course, mainly theoretical, and require for admission completion of a course in an agricultural school plus 1 year of controlled experience.

Higher education in agriculture is available at the University of Helsinki, which offers a 4- to 5-year course, including 1 year of practical work on a farm.

Cooperatives and Other Farm Organizations

Although cooperative methods in the modern sense came into use in Finland at the close of the last century, the idea of collaboration was not new to the people of the country. Through collaboration since time immemorial in trapping, fishing, and land-clearing operations they had learned the significance of universal conformity to a common principle and the distribution of profits in proportion to the extent of participation.

The Finnish cooperative movement may be said to have had its real start in 1899 with the founding of the Pellervo Society. The ultimate objective of the society was the elevation of the economic and cultural standards of the mass of the people to a higher level with the help of cooperation. The Cooperation Act of 1901 was one of the first achievements of the society. On the basis of this act, cooperative organizations began to be established throughout the country. From the first, distributive societies, dairies, and rural banks formed the main class of cooperative associations.

The Pellervo Society is the central organization for cooperative cultural work in practically all spheres of agricultural cooperative activity. In addition to about 1,500 local cooperative societies, its membership includes 7 central organizations such as the Central Bank for Agricultural Cooperative Credit Societies, and the egg-exporting society, Muna.

The central organizations carry on advisory and educational activity each in its own sphere. For this purpose they have special consultative departments, to which various consulting organs in the rural districts are subordinated.

Advisory work is in the hands of farmers' organizations. These are subsidized by the Government. The largest organization of this kind is composed of 22 agricultural societies. Advisory matters in connection with cooperative aid is in charge of the Pellervo Society.

Extension Work

1. *Agriculture*.—In Finland all agricultural extension work is carried on by organizations founded by farmers themselves. The state assists by annual grants. The oldest of these organizations are the agricultural societies of which the first society was founded in 1907. Today there are 22 of these societies. The membership comprises smaller associations, as well as farmers' local societies, persons interested in developing agriculture, and members of the farm-laborer class. Membership in these organizations is entirely voluntary. A central organization forming a link between the Finnish-speaking

agricultural societies and guiding and supervising their work, is the Central League of Agricultural Societies, founded in 1907. In 1933 the 19 agricultural societies affiliated with the Central League had a membership of 1,222 farmers' local societies, and these in turn an aggregate membership of 102,000. In 1934 membership had risen to about 124,000. The Central League publishes a periodical called *Maa* (The Land). In addition to these extension organizations are several specialized associations for developing different branches of agriculture. All these agricultural societies in Finland endeavor to raise the standard of professional skill among the farming population within their area and to develop the various branches of agriculture. With this intent, they furnish advice and guidance and draft plans of various kinds concerned with plant culture, livestock-keeping, gardening, household management, farm buildings, and fisheries. They arrange lectures, excursions, and courses; organize competitions of various kinds; provide guidance in farm bookkeeping; control and direct the work of farmers' societies, cow-testing societies, and breed-bull associations; and distribute agricultural literature. In addition to education one of their functions is to procure agricultural machinery for the use of their members. Many farmers' societies engage advisers in branches of work such as crop cultivation and household management, and maintain agricultural clubs, whose work they direct.

2. *Homemaking*.—Home demonstration work in Finland is somewhat similar to that in our country. The Martta Association, founded in 1899, aims to spread education and useful knowledge into even the smallest and most distant cottages. Farmers' wives and daughters constitute two-thirds of the membership and wage earners—laborers, artisans, and officials—constitute the remaining third.

In 1938 the Martta Society had approximately 1,100 local branches with a total membership of about 85,000. Its staff for the year included 23 full-time consultants and 124 advisers in home economics, together with 105 teachers of needlework and other subjects. The consultants were trained teachers of either home economics or gardening.

Mention must be made also of the organization Agricultural Women. It aims to educate the rural housewife to an appreciation of her responsible position as a partner and worker of primary importance where agriculture is concerned and to help her to attain the skill and knowledge required for the successful performance of her household duties. Like the Martta associations, Agricultural Women accomplishes its work through counselors, series of courses, meetings, lectures, exhibitions, outings, etc. Its program is adjusted to local conditions.

The Martta Society and Agricultural Women are both subsidized by the Government.

Health work is in charge of a medical board in the Ministry of Interior. For state supervision purposes the country is divided into 51 districts or counties, each in charge of a county medical officer. Besides these officials, 17 district physicians are employed by the state to perform the duties of communal doctors in the poorer and sparsely settled areas.

The following paragraphs from the Finland Year Book 1939-40¹⁸ are revealing with reference to health work. They were written un-

¹⁸ THE FINLAND YEAR BOOK 1939/40. 464 pp., illus. Helsinki. 1939.

doubtedly just before the outbreak of the war. The first is concerned with health in rural areas.

Apart from the contributory factors of sickness and poverty, the health of the rural population is subject to many other adverse circumstances, such as incomplete and faulty appreciation of the principles underlying the care of children, unsuitable and unhealthy living conditions, a monotonous and one-sided dietary system, and, in some cases, the excessive consumption of stimulative beverages, particularly coffee. The rise that has occurred during the last twenty years in the standard of living, together with the provision of extensive facilities for obtaining advice and the legislative measures adopted on behalf of social welfare and public health services, has successfully reduced these adverse factors, although progress, especially in the more remote districts, is still slow.

Concerning the problem of health in the nation as a whole the Year Book continues:

Apart from the work carried out by the State on behalf of national health, there are a number of associations, leagues and societies that have lent extremely valuable assistance. The voluntary activities of these bodies, carried out on a large scale and covering a very wide range, have done a great deal to ensure the steady physical, mental and economic development of the nation during the short period of independence. Many important reforms have still to be tackled, but everything points to the probability that the people of Finland are prepared to wage a whole-hearted battle to create a civilized state inhabited by a robust and healthy people.

3. *Work with young people.*—In Finland, in 1930, the Ministry of Agriculture assumed official control of club work, started by the International Education Board. Two committees—Maatalouskerholiito and Svenska Lantbrukssällskapens Klubbkomite—were appointed by the ministry for the technical guidance and supervision of the work. One of these committees represented the Finnish- and the other the Swedish-speaking people. Each was composed of representatives of agricultural and other societies interested in club work, with a representative of the Ministry of Agriculture on each committee. Two graduates of the state agricultural college were employed by the Finnish club committee as state club agents and supervisors of club work. One state club agent and supervisor, who was a graduate of both the state agricultural college and the state school of forestry, was employed by the Swedish committee. Club work then became a permanent part of the training for rural young people and was designated as 4-H Club Work. In 1930 there were 176 demonstration districts with 203 agricultural club agents, 42 home economics agents, 7 supervising agents, and 20,932 club members who completed the work. All club girls in 127 of the 176 districts were given instruction in the use of their products in the daily diet and in baking and canning of fruit and vegetables. Many boys also took part in the baking and canning. Courses in livestock raising were conducted in 61 of the 175 districts, 677 members taking part. The total area cultivated by club members amounted to 65 hectares or 162 acres in 1928; 211 hectares or 522 acres in 1929; 383½ hectares or 947¾ acres in 1930. Since that time, the work grew steadily until the start of the war, with a total club membership of 50,000 rural boys and girls in 1940.

Iceland

The Country

Since its colonization in the latter part of the ninth and the early part of the tenth century, the chief occupation of Iceland has been

farming. Fishing, which has increased greatly in recent years, has been secondary.

Iceland has an area of 39,709 square miles, or, in agricultural terms, 10,285,000 hectares. Of this about three-fifths—the highlands in the interior and mountain ranges extending from them—is uninhabited. The inhabited areas are along the coast and include approximately 3,800,000 hectares. Of these, 40,000 are under cultivation; 200,000 are natural meadowland; about 60,000 forest land; and some 3,500,000 are used as grazing grounds.

Icelandic farms are isolated and include from 500 to 600 hectares each. The average cultivated area of a farm is about 6 hectares with some 30 hectares of meadowland.

With such extensive uncultivated tracts in comparison with cultivated plots the value of a farm in Iceland depends on the quality of the soil, not on the size of the farm. All farms are valued periodically.

Four-fifths of the farms in Iceland are privately owned, the rest are public property. The privately owned farms are generally larger than the publicly owned and represent about five-sixths of the total value of the farmed lands.

Many farms are so situated as to enable the farmers to supplement their income from sources other than farming, the main subsidiary sources being fishing in lakes and rivers, hunting seal, gathering eider-down, and birding.

Farming in Iceland is based on the cultivation of grass. The hay from the cultivated home field is fed almost exclusively to the cattle and that from the meadowland is used for sheep and horses. Potatoes and Swedish turnips are grown where the soil is sandy. Scattered throughout the country are extensive peat bogs, yielding a good quality of peat for fuel. Animal husbandry in Iceland comprises the raising of sheep, cattle, horses, and poultry. Sheep raising is done on by far the largest scale.

Education

Although means of transportation have improved, nature has not yet been subjugated to human control and regulations. Terrific winds make it impossible for children under 10 years of age to battle their way on foot or on ponies to distant schools, and therefore the ages when schooling is compulsory for children living in the open country are from 10 to 14 years; for city and town children, from 7 to 14 years. Because education is compulsory in rural areas and along the fishing coasts, itinerant or ambulatory schools move about in rural districts. Groups of children congregate for a few weeks at a time on one of the larger farms and then move on to the next farm, taking teacher, books, and baggage with them. The itinerant-school year lasts 6 months, and each pupil receives at least 12 weeks of instruction. During 1919-20, 133 rural districts had itinerant schools serving 347 different localities. The number has decreased since 1920, however, because this type of school is slowly being eliminated or supplemented by boarding schools which have doubled in number.

All rural schools place special emphasis on Icelandic language, history, geography, and sports. The elementary-school children take but one, final, examination at the end of the compulsory 4- or 7-year school period. The urban elementary schools, which offer 7 years of schooling, have a 9- or 9½-month term. The certificate which the

student receives on the basis of the final examination entitles him to enter any secondary or continuation school.

Agricultural Education

Iceland has two agricultural schools, which are state supported and offer a 2-year course for farmers. For admission, the applicant must be at least 18 years of age. He must have completed the elementary school and had some additional study, such as attendance at a folk high school.

Young people in the rural areas may, after elementary-school graduation, choose to work on their own farms until they are about 17 years old and then continue their general education in the rural secondary schools for 2, 3, or more years. The eight large secondary schools and four agricultural colleges scattered throughout the country give rural youth an opportunity to become familiar with modern agricultural techniques and sciences designed to help the people to wrest a better living from an arid soil. After having attended a rural secondary school, the students may enter any one of the many professional schools for courses in commerce, engineering, agriculture, or teacher education. An extensive number of night schools are available in cities and in the larger villages. These schools offer an interesting program which combines the students' apprenticeship work with academic and theoretical studies.

The University of Iceland was founded in 1911. It has five departments—theology, medicine, law, philosophy, and research. The research department stresses studies that may prove of particular help to agriculture, industry, and fishing.

Agricultural Research

Research work used to be carried out at research stations under the supervision and management of the Agricultural Society, but now such work in agriculture is supervised by government-appointed directors of the research stations, the largest being the agricultural bureau of the University Research Institute at Reykjavik.

Since the beginning of the twentieth century, steps have been taken to promote the planting of forests. This work is in charge of a director of forestry, who is assisted by a number of qualified foresters. The aim is to protect and develop already existing forests, plant new areas, and give advice in forest planting and treatment.

Cooperative Societies

Cooperative purchase and sale societies, initiated by the farming population, began to appear in Iceland shortly after 1880.

The first cooperative dairy was established in 1900. By 1905 Iceland had 33 such dairies. In 1912 they began to decline, and after the First World War, most dairies suspended activities. Since 1930, however, a number of large dairies have been built mostly on a cooperative basis. They are equipped with up-to-date machinery and plant and are able to handle milk from large areas.

Cooperative slaughterhouses have also been built by cooperative societies. The largest was established in 1907.

Extension Work in Agriculture

Societies for the promotion of farming and agriculture in general began to be formed in different parts of the country a little before the

middle of the nineteenth century. They were confined generally to a parish each and were concerned mostly with leveling, draining, and irrigation. They increased gradually in number, but not until after 1887, when they began to receive annual subsidies from the Government, did they make considerable growth. The subsidy was proportionate to the amount of work accomplished during the preceding year. In 1893, 90 societies received government support for the improvement of estates; by 1916 their number had increased to 159. During the last years of the First World War, many of the societies had to suspend their activities, so that by 1920 only 97 societies were receiving support from public funds. By 1930 their number had increased to about 220 covering almost every parish in the country. The societies have laid particular stress on the improvement of home fields and meadows, the former by leveling and fencing, the latter by making irrigation canals and dams.

Most farmers are members of their local parish agricultural society. The parish societies of one or more of the counties or administrative districts into which Iceland is divided form a federation of parish agricultural societies. Iceland has 12 of these federations.

The head organization is the Agricultural Society of Iceland. To it the management and supervision of all matters relative to the promotion of agriculture in general are entrusted insofar as they are dependent on financial support from the state.

The society was organized in its present form in 1899, but had its beginnings in an organization formed between 1838 and 1840 for the discussion of agricultural improvement. Every farmer in Iceland, on payment of a small fee, is entitled to a life membership and to the journal of the society which has been published annually, and at times semiannually, since about 1867. The greater part of the funds at the disposal of the Agricultural Society of Iceland consists of annual state grants.

The highest authority in the society is vested in its agricultural council, which consists of 25 representatives elected by the members for a term of 4 years. The council meets in Reykjavik every 2 years to make out the budget, which, to become effective, must be approved by the Ministry of Agriculture and Industrial Affairs. The council has no legislative authority, but discusses all proposed agricultural legislation to be presented to the Icelandic Parliament.

The board of directors is composed of three members selected by the agricultural council. This board appoints the staff, including the director and eight counselors apart from the secretarial staff. The functions of the society are twofold. It has charge of the administration of all legislation for the improvement and assistance of agriculture and is therefore really a part of the Ministry of Agriculture. Its other function is extension service performed by the counselors, who are divided for this purpose into two groups, one dealing with cattle and the other with the cultivation of plants. In animal husbandry there is a counselor for each of the following subjects: Sheep breeding and management, cattle breeding and management, horse breeding and management, and dairying; in plant cultivation, a counselor each for land and field crops, gardening, drainage, irrigation, cereals and seeds.

The counselors in animal husbandry write for agricultural papers, give talks over the radio, and make speeches at meetings of farmers.

Each counselor makes organized tours for the purpose of getting in contact with farmers and advising them on various problems. He also judges livestock at local shows. These shows are organized in such a way that every farmer has the opportunity to display all his male breeding animals and pedigreed females and get them judged by experts free of charge. The shows are held every fourth year for sheep; every third, for horses; and every fifth, for cattle. The counselor also answers regularly all correspondence with reference to agriculture. The counselors in plant husbandry travel over the country and give corresponding advice on plant cultivation. They map the districts intended for irrigation or drainage and cultivation.

The federations of parish agricultural societies also perform some extension service within their districts through giving farmers advice, especially with reference to small farm operations of cultivation and drainage. For this the federations get grants from the Agricultural Society. Both the parish societies and the federations sometimes help farmers in large agricultural projects such as buying heavy, modern agricultural machinery which would be too expensive for the individual farmer to own.

Norway

The Country

Norway is a country of great contrasts. Economic conditions vary greatly from one community to another. Although the proportion of the total land area suitable for farming is small, farming is carried on all over the country in communities that often lie isolated and possess meager natural resources.

In general, one finds roughly two types of farming areas. One is located in the southeastern part of Norway and in Trondelagen. The other is in the mountain valleys and along the coast, where farms are generally much smaller than in the first mentioned areas and harder to operate, although a few fertile valleys provide exceptions. Moreover, farming, particularly along the coast, is combined with other activities such as fishing.

Cultural Background

The Norwegian people have long experience in democratic government. The fundamental principles of government based on the dignity of the individual and individual responsibility and freedom of action are the same as those cherished by the people of the United States.

In the endeavor to make a living, rural people primarily try to increase their cash income by greater efficiency in production, by development of new outlets for agricultural products, and by improving their position in the national economy.

The aspiration to own one's own farm is strong in Norway. In fact, desire for home ownership is one of the most deeply imbedded national traits. It is the goal of a farmer during his lifetime to improve the farm or home and turn it over to his son in better condition than when he took it over. A farm becomes therefore not merely a place on which to make money, but a home which reflects the owner's personality and family responsibility.

Country people take a pride in the skill of doing things. A good farmer is respected more for the methodical and careful way in which he operates his farm than for participation in community life.

Soil-conserving practices are an important part of the cultural inheritance. Prevention of soil erosion in the extremely hilly parts of Norway necessitates the growing of grass rather than of cultivated crops in most of the fields. In fact, to prevent banks of earth from forming at the lower end of a field when plowed, the earth from the first furrow is hauled in a dumpcart to the upper end of the field.

Because of the slender resources of Norway, economy, thrift, and frugality are considered essential. Waste is looked down upon.

The institution of supporting the parents of a farmer after he has taken over the farm from his father is important in rural life. A legal contract makes this a lien on the farm itself. Usually the old folks live in the same building with the young people except on larger farms, where a separate house is provided and the new farm owner is obligated to furnish farm products to his parents. This institution is the cause of much friction and many unpleasant incidents. A reform in this respect may be possible with the improvement in the economic status of farmers.

Extension Work

1. *Agriculture*.—In Norway agricultural extension activities are conducted by three principal agencies—the Department of Agriculture; the various agricultural and forestry associations; and in some sections, the local authorities. The Department of Agriculture, which was established in 1900, is the principal authority for carrying out official measures for the advancement of agriculture and conducts most of the extension teaching. However, this teaching does not always reach the farmers with limited means in isolated communities.

The two main branches of the department are the agriculture division and the forestry division, each in charge of a director general. Officials stationed at the department act as advisers to the directors in their various branches and as supervisors of the institutions under the department's control. In addition, the Department of Agriculture employs a staff of extension specialists with salary and traveling expenses entirely paid by the state. In Norway, the various agricultural and forestry societies play an important part in the work of the advancement of agriculture. The Royal Society for Norway's Welfare, one of the oldest of these associations, was founded in 1809 by a body of intelligent, patriotic men, for the furtherance of industry, agriculture, and education; that is, for the promotion of the country's welfare in every way, but the society soon began to devote its attention mainly to agricultural matters. Its principal work now consists in taking new matters under consideration and launching new measures to be turned over to the Government when well under way. It suggests plans for the work of the county agricultural societies affiliated with it which submit their annual reports to the society.

A large grant is received each year from the state, and funds are donated by institutions and persons interested in agriculture. The county agricultural societies, one in each of the 18 counties, subsections of the Society for Norway's Welfare, employ experts with the titles of agriculturists and horticulturists, who give free instruction to farmers, hold exhibitions of livestock and farm and garden products, and conduct experiments. Some of the agriculturists have stock raising as their special branch; some devote their time to other technical matters. Half of the funds for the salaries and traveling ex-

penses of these officials is provided by the state and half by the counties. Other associations national in their scope of activities, such as the Norwegian Peat-Bog Society, the Norwegian Society for the Promotion of Poultry Breeding, the Norwegian Beekeepers' Society, and the Society for the Promotion of Rabbit Breeding employ specialists to assist farmers in these branches.

To understand extension work in Norway one must visualize the country's subdivisions: County (fylke), of which there are 18, and community (herred), of which there are several hundred.

Agricultural extension in Norway is carried out by government action through the following personnel:

Specialist consultants (Statskonsulent) assigned specific subject matter such as horse breeding, dairy industry, pasture improvement, weed control, and cooperative organizations.

Consultants in each county (fylkesagronom) for broad divisions of subject matter such as agriculture, horticulture, and forestry.

Consultants in communities (herredsagronom). Of these there are relatively few. However, it is believed that an effective extension program would be dependent upon a great increase in consultants in communities.

Other semigovernmental and private groups are carrying out on the side extension activities such as work with agricultural societies, cooperative associations, and cow-testing and farm-accounting associations.

The greatest need for reform in extension appears to be in reaching a greater number of farmers and their families. To achieve this, more local effort is required by training local workers through an effective youth program like that of the 4-H Clubs.

Agricultural extension in Norway has been of the specialized, conspicuous type as exemplified by horse and cattle shows, but has not been sufficiently focused on assisting individual farmers to solve their manifold problems. To accomplish this end, more trained workers in the local communities are needed.

2. *Homemaking*.—The Bureau of Home Economics (Husstellbyraaet) in the Department of Agriculture, works for the advancement of home economics work throughout the country and promotes interest in the work within the administrative branch of Government.

Each of the 18 counties in Norway maintains a home economics school for young girls. The Government pays part of the expenses. Some of these schools give two courses of 5 months each a year, others give one 10-month course. The number of students ranges from 20 to 40. The schools are residential, and the buildings are often modern and well equipped.

At graduation time parents customarily attend demonstrations, banquets, and other festivities, and thus the influence of these schools is further extended. In addition demonstrations usually are given for homemakers during the school year.

The national Government maintains a consultant for the schools for homemakers (Konsulent for Husmorskole) who spends much of her time visiting the aforementioned home economics schools.

Short courses in homemaking for housewives are constantly given by ambulatory home economics teachers appointed by the Government, one teacher for each county. Food preparation is emphasized, and teachers spend several days in a community giving demonstrations.

Great ingenuity and flexibility is demanded by the teacher, who visits even the most isolated communities where supplies may be limited and primitive.

3. *Health activities*.—Courses in hygiene are given in folk high schools and young people's schools (Ungdome-skoler).

Courses in hygiene, infant and child care are always part of the curriculum of the 60 odd homemakers' schools for young girls.

The following-named national women's associations with hundreds of chapters in town and country districts are working for improved health conditions in the home as part of their program:

Norwegian Farm-Wives' Association (Norsk Bondekvinne-lag).

Norwegian Housewives' Association (Norges Husmorforbund).

Norwegian Women's Sanitation Association (Norske Kvinner's Sanitetsforening).

In 1921 the Norges Bondelag, the national association of Norwegian farmers, undertook the organization of farm-wives' associations and appointed a committee in 1925 to act as a central executive council. The women of the Norsk Bondekvinne-lag work side by side with the men, at the same time carrying on special work that can be undertaken only by women. By 1926 there were 30 local associations and in 1930 as many as 120. The objects of the associations are to—

a. Arouse the interest of Norwegian farm wives and to unite them to work for economic, cultural, and social objects in all matters affecting the independence of the home and the improvement of the homes of the peasantry.

b. Interest the young people of Norway in agriculture and its minor industries, give them greater joy in their work, and bind them more closely to the soil.

c. Combat those forces that seek to undermine the Christian religion and to break down the moral life of a nation.

Norges Husmorforbund is affiliated with Nordens Husmorforbund (NHF), the Northern Federation of Housewives' organizations of Sweden, Denmark, Finland, and Norway. It was founded in 1915. In 1939 it had 630 associations, rural and urban, all over the country. Norway, although a large country, has only 3,000,000 inhabitants. Having an organization working according to its program to promote hygienically, economically, scientifically, and ethically the welfare of the Norwegian homes, is a great asset, especially to the country-women.

Norske Kvinner's Sanitetsforening concentrates primarily on fighting tuberculosis, with health education as a main objective. Many chapters have nurses who work among tubercular families and do general preventive work as well.

Work with young people similar to that in Denmark, Finland, and Sweden was organized by the International Education Board in the 1920's.

4. *Guideposts for Extension Work*.—In understanding the prevailing need for a constructive program among rural youth, it is important to keep in mind that although compulsory education imposes some discipline on young people up to about 15 years of age, after that time they consider themselves adults and are at once exposed to the problems of adult life.

After 15 years of age, young people begin to go to dances with their older brothers and sisters and tend to congregate at road junctions or local stores, none of which is instrumental in building character or developing leadership.

Parents are often unable to exercise control over young people at that age. Developing constructive activities among young people is becoming increasingly important in order to create a sense of responsibility at an early age.

a. An intensive youth program should recognize this break in the life of youth that occurs after the compulsory period of education has ended and be carried out in the community itself. One of the objectives of such a program should be to train local extension workers, although the main emphasis should be on helping young people to prepare the social and economic base for establishment of family and home.

b. The sympathy of older people for a youth program should be enlisted. Without such sympathy and tolerance, an effective youth program would not succeed. Similarly, any youth program that involved undue expense to the parents would tend to be unpopular.

c. Too many functionaries or government officials (*Funktionarisme*) are widely disliked, and for that reason the extension principle of "relay" teaching and neighborhood leaders might well be applied in Norway. The economic problem of having enough local extension agents would be more difficult than in the United States, so that volunteer help would be a necessary part of extension work. After the occupation of Norway has ended, antipathy toward functionaries is likely to be stronger than ever. People hate "being told," and for that reason local volunteer activities might be welcomed.

d. Agricultural extension for farmers should be of a type and scope to reach and benefit all farmers. For this reason extension personnel should have sufficient adaptability and training to assist farmers both small and large.

e. Any extension program should be approved by the local community itself before being put into effect. To set up a large program that cannot be carried out or that otherwise might prove unsuccessful would make people lose interest and cause a setback from which recovery would take time.

f. Extension workers in a local community should, to a large extent, be recruited from the general area in order to be accustomed to the ways of living and thereby gain the confidence of the local population.

g. An in-service training program for local workers is necessary.

h. More homemaking and health programs are needed; more young women and more homemakers should be reached. In addition, youth programs for girls could greatly extend interest in these subjects by utilizing 4-H Club techniques such as contests, demonstrations, exhibits, and arranging of entertainments.

Sweden

The Country

Several factors contribute toward variations of climate in Sweden's several regions. The land runs through more than $131\frac{1}{2}^{\circ}$ of latitude; about 15 percent of its area is within the Arctic Circle; the boundary mountains are sufficiently high to be much colder than the adjacent coastal lands, but are not high enough to shut out entirely the warming effects of those drifts of wind and water from the southwest that give Norway its remarkable climate. The relative length of the seasons shows contrasts resembling those of temperature.

The length of the Swedish summer day varies widely. At Karesvando in $68^{\circ} 26' N.$ the sun is continuously above the horizon from May 26 to July 18; at Haparanda for 23 hours, and at Lund for $17\frac{1}{2}$ hours at the summer solstice. Refraction increases the average length of the day by 30 minutes in the north and by 15 minutes in the south.

The population of Sweden at the 1940 census was 6,371,432. A general census is taken every 10 years, and approximate returns are made annually.

The non-Protestants number only about 11,000; Jews, 6,500; Roman Catholics, 3,500; more than 99 percent of the total population belongs

to the Swedish Lutheran Church, of which the King, who must profess the pure evangelical creed, is the supreme administrator. Sweden is divided into 12 dioceses (with Uppsala, since 1164, as the metropolitan see) and 188 rural deaneries. The parishes number 2,588 united into 1,419 rector's districts. All citizens contribute to the Swedish church, in consideration of the secular duties of the priests. Contributions may be reduced for those who support another church legally recognized. Since 1842 public elementary education has been free and compulsory, and the parents whose children do not attend state schools must show proof that they are being privately educated. There were in 1928, 77 public secondary schools, 53 people's high schools, and various technical and special schools. Sweden has two old universities, at Uppsala (founded in 1477) and at Lund (founded in 1668), and state faculties in certain branches of learning at Stockholm and Göteborg.

Not quite one-third of the population lives in the towns. About 32 percent now earn their living by agriculture, as compared with 70 percent 50 years ago. Within the same period the industrial population has increased from 15 to 40 percent.

Agriculture

The cultivated soil is only 9.3 percent of the whole; about 2 percent consists of natural meadowland. About 60 percent is covered by forests, principally of pine; the rest is mountain and barren land. The cultivation of grain, especially of wheat, is practiced mostly in the southern provinces; cattle raising takes place in all parts of the country. What used to be fallow land is used for fodder roots. In Skåne the sugar beet is grown. The wheat produced per acre is exceeded only by Denmark, the Netherlands, Belgium, and Great Britain. Although Sweden was not quite self-sufficient in grain before the war, she had considerable surpluses of butter and bacon (in 1937, 24,000 and 17,000 tons, respectively) which were exported, chiefly to England. However, oil cake and other concentrates are imported.

Swedish agriculture is built up of about 400,000 farms; 100,000 of these are less than 5 acres, 100,000 are 5 to 12 acres in size, and 100,000 fall between 12 and 25 acres. The rest, that is 100,000, are larger than 25 acres, but only 7,000 of them have more than 120 acres. The 300,000 farms not over 25 acres constitute 35 percent of the cultivated areas; the 93,000 between 25 and 120 acres, 45 percent; and the 7,000 over 120 acres, 20 percent. The small farms are mainly situated in northern Sweden, Norrland, where agriculture is combined with lumbering. Most of these are not very effective as farm units. The small holders rely on lumbering and other temporary activities, and the farms have to be run to a large extent, by the women.

The wife of this type of farmer has heavy work and consequently retention of young people on such farms has been difficult for years. The children seldom take over their parents' work, and rarely do girls marry a farmer from their own locality. That the earning of a living on these farms is so hard a task is not due to the farmers' ignorance concerning improvement of their practices, but because in large parts of these forest areas the general soil and climatic conditions for agriculture are poor. These farms cannot produce much

more than they do. In addition, the prospects for the development of supplementary activities such as lumbering are not bright because, first, lumbering as a whole is decreasing since the primeval forests are now cut down and the lumbering of the future will have to be confined to the annual growth of the forests. Second, if the efficiency of lumbering is to be improved, the hiring of lumber workers on a full-time yearly basis may be necessary in the long run. This gives rise to the question of which policy should be established with regard to the small holders in the forest districts. Concentration of lumber workers in villages may prove advisable where they can get the facilities now considered part of a proper standard of living such as electricity, the telephone, motion pictures, and running water. The cost of giving these things to each of the widely spread forest farms would considerably exceed the economic benefits of running them. The whole issue is how far and at what expense extension of support to this type of agriculture would seem advisable. However, no disagreement exists regarding the necessity to reduce the amount of small holdings in areas that are not suitable for farming and to concentrate on the best agricultural districts, especially in the southern and middle parts of Sweden.

Obviously such a policy means that cultivated area will be diminished. However, this involves no danger to Sweden's supply of food-stuffs. Swedish agricultural production has reached the point where it is almost up to the needs of the people, provided fertilizers can be imported. In addition, increase in production is believed possible by the extension of the best methods of farming and by continued research work to improve plant breeding. Increasing the output of several food crops by at least 50 percent is said to be possible by this means. Extending to all farmers the newest and best methods of agricultural production, including mechanized farming, and pushing intensive research work for improvement of these methods still more, will result directly as well as indirectly in a reduction in agricultural population.

To get the Swedish agriculture in general on a competitive level with the great agricultural regions overseas, or with Denmark, the main objectives would seem to be to (1) enlarge the farms; (2) improve the methods of farming, especially as to the use of machinery and management; and (3) get farmers to use these improved methods. As these objectives are achieved, household work on the farms may get on a level compared with that in the cities. Often overlooked is the fact that hard work for women in the country mainly is a consequence of inefficient farming, and the only constructive way to attack this problem is to increase farm yield by improved techniques of farming throughout the productive agricultural areas of Sweden as well as in other European countries.

In Sweden poor agricultural conditions in certain areas have caused the people to earn their living by supplementary business that in the long run often has become the main source of income. This is especially true in Smaland, where a flourishing small industry and widespread handicraft actually has developed. Other examples could be found in Vastergotland, Dalarna, and other places. It may be questioned why such efforts in handicraft cannot be observed in those parts of northern Sweden where agriculture also is poor. In that area prospects for supplementary activities, except lumbering, are

poor. The climate is hard, the distances are vast. Moreover, the people often are more indifferent. They feel that the obstacles are too difficult. Therefore, it would seem from such observation that extension work as a general rule in Sweden should be concentrated upon areas suitable for farming rather than strive to retain an agricultural population in regions where farming is uneconomic.

Sweden is richly endowed with waterfalls suitable to produce electric energy, and the country as a whole is now electrified to 78 percent, which means that electric energy is available to about three inhabitants out of four. However, in more densely settled communities the degree of electrification is higher than in rural districts. Towns and villages are almost 100 percent electrified, while rural districts with five-eighths of the population are only 65 percent electrified.

On farms electricity is used principally for lighting but also for small motors that work milking machines, water pumps, seed-cleaning machines, hay and grain hoists and other transport appliances, and wood saws. In addition, it is rather usual to find on the farms a somewhat larger, movable electric motor employed for threshing, grinding feed grain, and sawing timber for farm buildings. Sometimes a hot-water heater is used, but small electrical household appliances such as electric irons, vacuum cleaners, and radios are more common. Electric stoves are not often used in rural districts, since the country is well supplied with firewood.

Agricultural Research and Education

The Royal Academy of Agriculture was founded in 1811 and shortly afterward research in agronomy was included in its program. In the middle of the nineteenth century the academy obtained an experimental farm outside Stockholm and to this was later added a chemical laboratory. In 1907 a state institution for agricultural research called the Central Agricultural Experiment Station, was established on the experimental field belonging to the agricultural academy. The work of this institute was originally divided into different departments: Agronomy, animal husbandry and dairying, agricultural chemistry, botany, entomology, and bacteriology. In 1932 a reorganization of the entire institute was begun, and most of the departments were transferred or will be transferred to the agricultural college established that year outside Uppsala.

Also, about the middle of the nineteenth century two agricultural institutes were established by the state, Ultuna in 1848 and Alnarp in 1862. Both these were intended chiefly as educational institutions, but agricultural research has to some extent been carried on there. In 1932 they were merged in the college of agriculture. In the eighties, the Swedish Plant Breeding Station and the Peat-Land Cultivation Society were established through private initiative. These organizations, especially the former, have played an important part in the development of Swedish agriculture. Subsequently, several other research institutions were founded, of which the most outstanding will be briefly described.

The agricultural college at Uppsala has about 15 departments for instruction and research and, in addition, two departments for more practical experimental work, one for agriculture and the other for animal husbandry. The results of the research carried on at the college are published in the *Annals of the Agricultural College of*

Sweden.¹⁹ On the campus of the agricultural college, but quite independent of it, are located the headquarters of the recently established Swedish Grassland and Peat Cultivation Society, which is active in experimental and educational work relating to grazing and pasture land as well as in the utilization of the organogenic soil. This society was formed by merging the Swedish Grassland Society, founded in 1916, and the Peat-Land Cultivation Society.

Situated immediately outside Stockholm are the state institute for the protection of plants and the state seed-testing institute. The former is composed of three departments—botany, zoology, and information and control. Both these institutions carry on experimental and research work in their respective fields.

The institute for animal breeding, located on the Viad estate about 40 miles south of Stockholm, was founded in 1928 with donated funds. Its purpose is to carry out biological research in breeding for the development and testing of new methods, and also for experimental breeding to develop a stock of farm animals economically superior to those now available.

The Swedish plant-breeding station at Svalov has already been mentioned. Its primary object is to carry on practical plant breeding, but extensive research in the field of plant genetics is also undertaken here. The work at Svalov is divided into different departments for different plant species, chromosome research, etc. Several branch stations are located in various parts of the country.

Plant breeding in agriculture is estimated to have increased Swedish annual returns for grain alone by more than 50 million kronor. The total cost of this plant-breeding work is about 1/2-million kronor a year, of which the state pays about half.

The results of the research and experimental work carried on in Sweden and other countries should naturally be applied to farming as rapidly as possible, and for this object educational institutions of various kinds exist. The highest education in the field of agriculture is given at the agricultural college, where courses leading to a degree of bachelor of science in agriculture deal with three different fields: Agronomy, animal husbandry, and agricultural economics. Entrance requirements are a matriculation examination, or equivalent knowledge in a certain number of subjects corresponding more or less to junior college work in the United States of America, and 3 years of practical farming. The course leading to a bachelor's degree in agriculture ordinarily takes 3½ to 4 years, after which the student may continue his studies toward a higher degree. Advanced training in dairying and horticulture is given at Alnarp in southern Sweden, where research in these fields is also carried on. The graduates of these schools generally become teachers in the lower agricultural schools, county advisers, or are engaged in some similar public work.

Instruction for future farmers is given in the lower agricultural schools, of which there are several different kinds. At the farm schools only theoretical instruction is offered in courses lasting 5 or 9 months. These schools are primarily intended for farmers' sons who expect to become farmers themselves. A number of shorter courses are also given here in such subjects as milk recording. Also agricultural schools with 1- or 2-year courses generally include theoretical instruction in the winter and practical work in the summer.

¹⁹ Uppsala. Lantbrukshögskolan. Annaler.

These schools are intended chiefly to train managers for large or medium-sized farms, but many who expect to become farm owners themselves also attend them. In 1937 there were 12 agricultural schools in Sweden along with 41 farm schools, with 352 and 1,554 pupils respectively. A 1-year continuation course is offered at Alnarp for students who have successfully passed the other schools and have had good practical experience in farming. This course is intended for managers or superintendents of large farms.

For women there are special schools of home economics with courses in domestic science and economics, small-animal husbandry, gardening, etc., which last 3 or 5 months. In 1937, 1,215 pupils received instruction in these schools. There are also a number of lower schools for dairying and gardening.

Extension Work

1. *Agriculture*.—All counties employ county advisers to assist farmers with advice and information. Each county usually has one or more advisers for agronomy, one for animal husbandry, one for horticulture, and one woman adviser for home economy. These advisers are paid chiefly by the state, as are teachers at the farm schools.

The Swedish farmer has become much more skillful since the turn of the century, and as a consequence the yield of the soil as well as of the animals has greatly increased. His heightened efficiency is to a large degree the result of the progress made in science and agricultural research, but the farmers' schools and the advisory work have undoubtedly been of inestimable value in transmitting the new knowledge to the tillers of the soil. The results of scientific investigations are common property; they are not patented or stopped by custom barriers, and for this reason the findings of the world have been utilized in Swedish agricultural education. In relation to its size and resources, Sweden's contribution to agricultural research may be regarded as highly satisfactory, though her contribution to all the results of international research that have carried agriculture forward, has naturally been small. The relatively high efficiency of farmers in the good farming areas of Sweden, as well as in other Scandinavian countries, is chiefly the result of early instruction in agriculture and well-organized agricultural education. Moreover, provision was made relatively early for the constant flow of agricultural information to farmers by means of the radio, press, and for free access to many types of books containing useful information that can be easily read by almost every farmer.

2. *Homemaking*.—Much interest and effort are being given to the task of improving working conditions of rural women. Education and training are necessary if rural homes are to share in new developments and keep pace with urban homes. One new development on the program is the expansion of extension work done by home agents to include all parts of Sweden, with provision for each county to have at least one such agent trained in home economics. The agent gives lectures, demonstrations, and practical courses on many subjects pertaining to the home. She supervises the period of study for housewives, usually 1 week, as well as excursions and exhibitions. She helps with plans for modernizing working units. She organizes clubs for women in which they can learn from one another and help one another. The National Federation of Housewives has branches

all over the country, even in distant communities. In some parts of Sweden each county is divided into smaller units, in which so-called household councils are being formed. The council assists the home extension agent and encourages the women to help with the education program.

In addition to the national organizations of homemakers in Denmark, Norway, Finland, and Sweden, there is an international affiliation of the organizations in these four nations known as the Northern Federation of Homemakers. The presidency of the Northern Federation is a revolving one. The president of the national organization of each country becomes, in turn, the president of the Northern Federation. The federation serves as a basis for exchange of ideas and experiences and thus helps to improve the work of each national organization and to promote international interest, understanding, and cooperative effort.

3. *Work With Young People.*—In Sweden, club work similar to that started by the International Education Board was under way in the 1930's. In 1930, the Ministry of Agriculture assumed full responsibility for the continuance of this work, but placed its actual administration and guidance in the hands of Jordbrukare-Ungdomens Forbund, the association of farm youth, which has been in existence since 1918. At the request of the Ministry of Agriculture, the board of this association was increased by two members—one a representative of this department of the Government and the other a representative of the agricultural societies—and now forms the official club committee. The administration of club work in 1930 was conducted in close cooperation with the official club committee and thus the committee had an opportunity to become acquainted with all the details of the work. The secretary of the board of Jordbrukare-Ungdomens Forbund, or the official club committee, became the director and supervising state agent of club work. In 1930, club work was thoroughly established in most of the agricultural parishes in 15 of the 24 counties in Sweden, with a membership of 2,686 boys and 2,193 girls, 16 agricultural and 15 home-management agents.

Following the pattern set by farm women of the four Scandinavian countries, a 4-H Federation of the Northern Countries of Europe was organized in the late thirties. Until the war, meetings and exhibits were held annually, usually in Copenhagen.

Conclusion

Wartime and Postwar Problems of the Northern Countries

From the beginning of the war, extension workers of the northern countries have had to carry a heavy load because so many problems of adjustment have been thrust upon farmers. These countries have been prevented from receiving customary imports of concentrate feeds, phosphatic fertilizers, and a number of other less important agricultural supplies. The shortage of concentrate feeds has led to some reduction in livestock herds, but reduction has been most severe for grain-consuming animals such as pigs and poultry. Close economy in home-grown feeds has been necessary, especially the greatly reduced supplies of concentrate feeds available for dairy cattle. Under these conditions numerous problems have arisen in the field of feeding and management of herds. Increase has been necessary in the produc-

tion of certain kinds of seeds in which the countries previously were not fully self-sufficient; and phosphatic fertilizers, which have been extremely scarce, have had to be put to their most effective use. A shortage of labor, draft power, and certain kinds of machinery has added to the problems, which could be listed at length.

The postwar period will bring new problems—perhaps less difficult ones on the whole—because, although modification of agriculture has been necessary to a considerable degree during the war, no change has occurred in the general system of livestock farming that prevailed before the war in various countries or parts of countries. Likewise the postwar situation will call for the restoration and further development of that system with which research and extension workers are thoroughly familiar.

SUMMARY

Some major farm problems:

1. Lack of customary imports of concentrate feeds, phosphate fertilizers, and other supplies.
2. Livestock of all types reduced. Therefore, the demands for restocking farms will be imperative. Rehabilitation of dairy herds will be a long-range process, but pig population can be restored rapidly.
3. Seed stocks depleted.
4. Limited quantities of fertilizers, necessitating much care in effective use.
5. Shortage of labor and of draft power.
6. Much of the farm machinery and other equipment, including tools, worn out or perhaps destroyed.
7. Many farm buildings in need of repair. Some in the war-torn countries may have to be rebuilt.
8. Marketing services in many instances disorganized.
9. Certain farm organizations, through which extension work is done, somewhat disrupted.
10. Considerable shortage of fuel.

Some major home and health problems:

1. Many people, especially children, undernourished due to lack of sufficient milk and other protective foods. This condition is particularly true in Finland and Norway and resistance to many kinds of disease has been weakened.
2. Signs of frustration observed in many children and young people in some areas of the war-torn countries due to years of frightening experiences.
3. Supplies of medicine depleted, and considerable illness resulting from this lack.
4. Many homes in need of repair. Some have been totally destroyed in Finland and Norway.
5. Much household equipment and furnishings now worn out and in some instances destroyed.
6. Much of the clothing, especially that for use during the severe winters, now worn out.
7. Use of cooking gas and electricity severely restricted.

Some Guideposts for Extension Workers, Both Foreign and Native, in the Northern Countries

In connection with agricultural extension programs in the northern countries, extension workers will be keenly interested in the restora-

tion and further development of their system of livestock farming; in increased use of machinery and other means of improving the techniques of growing feed crops, that is, small grains, sugar and fodder beets, and pasture and hay crops; in the conservation of these crops for winter feeding; and in any new developments with respect to livestock breeding, feeding, and management. They will be interested also in new developments, technical and economic, in dairy manufacturing and marketing of livestock, meats, milk and other dairy products, eggs and poultry.

Much will have to be done in relation to the development of a strong nutrition and health program with special emphasis on gardening and canning. Farm people will also want assistance in relation to: Repair of farm buildings and equipment as the needs arise; reestablishment of suitable housing, household equipment, and home comforts; care of children, particularly those in war-torn countries; and replenishing of clothing for all farm family members.

Extension workers will want to know about any new developments with respect to the methods and techniques of carrying information to farm people whether they are through the old familiar methods of short courses, meetings, and demonstrations, or through the new media of radio and films. Certain features of home demonstration extension work as well as of 4-H Club work as conducted in the United States might well be further developed in the northern countries.

Some Suggestions on General Organization and Program Developments

1. Extension work already under way should be carefully studied, and acquaintance made with those employed to do it.

2. New extension workers should seek to help farmers and their families as much as possible through organizations already under way such as cooperatives, agricultural and homemaking societies, and folk high schools. Special study should be made of work being done through local organizations, to the end that such work may be thoroughly understood and mistakes avoided. Care should be taken to gain the confidence of members of these organizations by (a) becoming acquainted with their experiences, needs, and desires, (b) discussing their problems with them, and (c) helping them to solve these problems.

3. The need for a better community extension approach in order to reach the majority of farmers should be stressed in some of these countries. Meeting the felt needs of the people and using the volunteer, local-leadership system might well be encouraged in helping to reach all members of the farm family. In all this the extension worker should capitalize on the good practices already being carried out on the farms and in the homes.

4. The importance of individual and group participation should be kept well in mind. Learning to do by doing and helping people to help themselves are basic principles of such participating endeavor.

5. The demonstration method should be encouraged whenever practical.

6. Wide use should be made of news service, radio, motion pictures, and posters as the needs arise. Perhaps more use can be made of bulletins.

7. Clubs for boys and girls should be further encouraged, with young people initiating as much as possible those activities that will be of benefit not only to themselves but to the communities in which they live. Young people should be encouraged to share responsibilities in farm and community development alongside their parents and neighbors. At all times, they should be encouraged to do worth-while pieces of work that will challenge their best efforts.

8. Extension workers might well initiate in farming areas demonstrations, exhibits, social and other events in which all participate in the planning and development, that farm people may enjoy working together and, in turn, maintain their faith in their own agriculture.

9. Needed agricultural and home supplies should be made available where needed so that farm people will find it easy to carry out recommended practices. Business organizations especially should be guided in handling supplies best suited to rehabilitation of both the home and the farm.

10. It is important too that extension workers inject into the thinking of farm people, as far as possible, broad ideals of statesmanship in relation to farm procedures and general agricultural policies.

11. In all extension work in the northern countries, appeals should be made in terms of the individual's own values, and work should be so developed that definite satisfactions in accomplishment will result.

12. Recognition of accomplishment for an individual should be so given that it will, in turn, stimulate recognition from the people whom that individual considers worth while.

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India

ABOUT 20 MEMBERS participated actively in preparing the report of the Committee on India. Particularly are the rest of us appreciative of the contribution of the Indian members of the committee. India has become home to some of us. She has developed in

us a deep love; but no matter how long we serve there, our Indian friends are better able to consider what services would be helpful to the Indian people.

Our findings are summarized under the three main heads of our report as follows:

The Socioeconomic Background

Importance of the Work

India is predominantly rural and, therefore, rural reconstruction is one of her most important problems. Although something has been done to uplift Indian farmers, the work of rural reconstruction is still in its infancy. A new and lively movement in this direction needs to be started. India has about 700,000 villages, comparatively few towns, and still fewer cities. Over 80 percent of the population of India lives in villages. They are farmers as well as craftsmen. All villages of India are primarily agricultural. Indian production and export of raw materials are second to no other country in the world. The Indian village is India's soul.

The Ancient Villages

The earliest known inhabitants of India, the later settlers, and the still later settlers, lived in small groups which were clans more or less and thus formed villages. At their best, everyone of these villages was an independent, self-sufficient unit. Compared with contemporary ancient villages of other countries, the ancient villages of India were quite well off. Every village had a headman with greater responsibility than a modern king has. The headman had an executive assistant who was no less than a modern prime minister. Ordinarily, officers were chosen by the consent of the people because of their outstanding ability and leadership. Later these offices became more or less hereditary. A group of the most trusted, experienced, and public-spirited people in every village was its legislative council. The village laws were based on common sense, but were unwritten. Every village had a well-organized system of government which had provisions for revenue, trade, education, defense, justice, sanitation, health. Each farm assisted according to its produce, and such revenue was used for the upkeep of the village. A spiritually minded man, one who was well versed in religion and science, became the village teacher. Such a person considered it a privilege to teach the village youth. The foremost and chivalrous young men of the village organized an army of the local young men, trained it, and used it for internal order and external defense.

Farm taxes were paid mostly in produce. Most families had a reserve store of grain for use in an emergency, and a community store of grain was kept to support the village during famines, epidemics, and invasion. To maintain village economy, exports and imports were balanced. Travelers brought and carried messages to and from the villages. Cooperation among the village people was both preached and practiced in various kinds of work. Village roads, wells, and halls, temples, and such other public necessities were built by the villagers through teamwork on a voluntary basis. Most villages had a local carpenter, blacksmith, rope maker, tanner, weaver, shoemaker, barber, and teacher (who also was generally the priest). Education in the

village was not dependent on literacy. Numerous architects, physicians, statesmen, and financiers were illiterate before the day of printing. Science and arts were committed to memory and passed on by one generation to another. Rulers and leaders were both appointed and displaced by public consent or revolutions. People built mud, brick, or stone houses which were considered to be rather modern in those days.

The Modern Villages

The present villages of India are very backward in comparison with contemporary villages in other countries. They have deteriorated and are disorganized. They support the country to a great extent and yet are themselves practically starved. One reason for the fall of Indian villages is the many conquests, both domestic and foreign, through the centuries. As a result of heavy outside demands, village economy has been greatly weakened. All progress in industries and education has to a large extent drifted to towns and cities. The central Government has not found it possible to appropriate more than about 17 cents per capita annually for education. Local governments carry the responsibility for elementary schools. Overpopulation does not seem to be a great reason for the present backwardness of the Indian villager, because proportionately India is not more populated than some parts of Europe. A great many villagers migrate to the city, where they earn wages in industrial plants to supplement their meager village income.

Indian farmers do not know less about the art of farming now than their forefathers did, but they should know as much as contemporary modern farmers in other countries do. Originally the caste system in Indian villages was, among other things, a system somewhat like that of trade unions. Indian farmers still use more or less primitive methods and implements of farming, because more suitable ones are not often available to them. More than 90 percent of the agricultural graduates in India take to civil service in preference to farming because they can thus earn more money.

Most villages use for fuel what they should use for fertilizer because they have no other adequate fuel, such as coal or oil, available. For want of convenient roads, farmers do not always find it profitable to ship their produce to cities. Although villages are the centers of food production, the cities haul and export grain, and the villagers have to turn to them for food during famines, and sometimes even die in the cities when no food is found.

The People of Indian Villages

Continuous frustration over generations has made Indian villagers somewhat hopeless. They would rather follow than think. They have developed in their dealings with people from the outside a complex of suspicion and reserve, but underneath the surface they are frank, trusting, and communicative. Their whole culture is precious to them, especially because it is one of the few things they have succeeded in keeping intact in spite of poverty and backwardness in the modern struggle for survival and freedom. A majority of villagers are quite impressionable although they may seem to be conservative. They all are eager to seek help so they can help themselves, but resent paternalism. They are willing to borrow money at exorbitant rates

of interest, not from choice but necessity. Modern methods and implements of agriculture do not always appeal to them because they feel that such things are beyond their reach. Indian villagers are eager to have small industries established in their villages so they may earn more money. A great many villagers do not give their very best to farming because they find it to be a task which enriches others and leaves them just where they are. In spite of illiteracy, Indian villagers show a great intelligence in the use of their limited franchise. Poverty and fear of extinction have kept village families closer together than they might have been in cities. Many outstanding leaders in India have come from the Indian village.

Outstanding Needs of Indian Farmers That Might Be Met Through Extension Service:

1. More land area under cultivation, as through irrigation.
2. More adequate means of communication, by—
 - a. Improved roads and railroads.
 - b. The use of radio and audio-visual aids.
3. Reforestation, through—
 - a. Encouraging each village to plant as many trees as possible, year by year.
 - b. Protecting young trees from grazing cattle.
4. Readjustment of the land-tenure systems, in favor of the farmer.
5. Elimination of absentee landlordism, through facilitating land ownership by the farmer.
6. Improvement of soil under cultivation, through—
 - a. Provision of fuel, so that waste materials and manure can be used for fertilizer.
 - b. Provision of commercial fertilizer.
7. Improvement of crops, both in quantity and quality, by—
 - a. Sale of certified seeds for vegetables, as well as for other crops.
 - b. More orchards, and sale of young trees from controlled nurseries.
8. Improvement of livestock, through—
 - a. Loan or sale of bulls, bucks, and rams of selected breeds.
 - b. Sale of eggs of better breeds of fowls and grading up with purebred cocks.
9. More efficient use of labor and time, through—
 - a. Preparation of work schedules.
 - b. More efficient implements.
10. Encouragement of small industries that can be conducted profitably in a village community.
11. More profitable marketing, through—
 - a. Cooperative marketing societies.
 - b. Utilizing traditional periodic markets.
12. Reduction of indebtedness, through—
 - a. Expansion of cooperative credit societies.
 - b. Increasing cash earnings.
 - c. Enforcement of legislation that makes the charging of exorbitant interest rates a criminal offense.
13. Promoting further health measures, as—
 - a. Prevention of malaria.
 - b. More effective control of epidemics such as cholera and plague.
 - c. Introduction of simple latrines.
 - d. Control of flies, fleas, lice, ticks, and other vermin.
 - e. Encouraging families to reserve for their own use a sufficient quantity of the foods they produce.
 - f. Teaching mothers simple ways of preserving the health of their families.

14. More effective education, through—
 - a. Compulsory school attendance throughout the primary grades.
 - b. Establishment of more schools.
 - c. Schools with classes that prepare boys and girls for more satisfying life in a village.
 - d. A well-organized program of adult education.
 - e. Literature designed to be of interest to farmers and village craftsmen and homemakers.
15. Services built upon the unity and interdependence of the members of the village community.
16. Fuller recognition of the possibilities of extension service.
17. Healthy cooperation between government agencies, private agencies, and village groups.

Experiences in Extension

The Committee has listed, only as examples that might be suggestive to those wishing to do extension, actual pieces of work about which members of the committee have first-hand knowledge. Under each example is given a brief suggestion as to the type of service rendered. Anyone wishing a fuller account may obtain it from the agency itself.

These examples are divided between government activities and private or nonofficial ones.

Government Extension Activities

The outstanding observation with respect to governmental activities in the fields of agriculture and of rural life in India is that programs of research have been much more adequate than programs of extension. This judgment has been voiced by many observers, who have assessed the work of the Imperial Council of Agricultural Research.

A number of projects of an extension nature are carried on by most provincial and state governments. These include—

1. Seed stores, usually in strategically located market towns, as outlets for improved strains of seed and for the sale of improved implements.
2. Demonstration farms, intended to encourage improved agricultural practices through example, but actually most useful in conducting varietal tests on various crops.
3. Veterinary service, contributing chiefly by promoting castration of scrub bulls and combatting epidemics of animal disease.
4. Sponsoring cooperative societies, set up through government organizers, who arrange for periodic audit of accounts.
5. Encouraging village industries, chiefly of a handicraft nature.
6. Public health services, chiefly smallpox vaccination and distribution of quinine.
7. Other projects.

That the Government realizes the means are utterly inadequate is demonstrated by its desire to integrate all government services available to rural people, by its intention to expand greatly the provision for rural extension in the government budget in postwar years, and by such official pronouncements as the Viceroy's message on the Government's Postwar Policy Committee on Agriculture, Forestry, and Fisheries (June 26, 1944).

Private or Nonofficial Agencies

1. *Indian National Congress*.—Mohandas Gandhi has translated the slogan “Government of the people, by the people, for the people,” into every Indian language, and it has become a household slogan. The Indian National Congress tried to fulfill its pledges to the peasants.

a. In every province under the Congress regime a mass literacy drive was organized under official and nonofficial auspices, with the result that literacy increased markedly.

b. In every province laws were enacted to grant permanent rights to tenants; to reduce the burden of debts; to organize cooperative organizations to improve the economic conditions of the peasantry. Marketing laws were introduced for the protection of peasants.

c. Rural reconstruction was a chief item in the Congress program, and thousands of workers, some paid, but mostly unpaid, set themselves to the task of infusing new life into the villages.

(1) A sanitation drive was launched in selected areas in every province.

(2) Many medical centers were established.

(3) Ideal homes were built in selected villages.

(4) Roads and wells were constructed in the rural areas.

(5) Public halls were built in some villages for the entertainment, public assembly, and other communal needs of the villagers.

The All-India Women's Conference, All-India Village Industries Association, Gandhi Seva Sangh, All-India Spinners' Association, Servants of India Society, Hindustan National Boy Scouts, All-India Seva Samiti, the Red Shirts Organization (called Servants of God, a nationalist Moslem organization), and numerous Moslem societies and Christian missions cooperated with the Congress in this program of rural reconstruction.

d. The Congress launched a vigorous campaign against intemperance, and in order to balance the loss of government income, introduced a sales tax and a property tax.

e. It introduced the campaign to grant equal rights to the depressed classes.

f. It sent a medical mission to China.

2. *Developing a sisal fiber industry*.—In answer to the need of a large number of poor families in this region of the Bombay presidency, the American Marathi Mission formed an organized charity association to raise funds. Using a purse brought from the Island of Haiti as an example, women began to be taught to make various articles from fiber that grew in the vicinity. This proved to be sisal, which is used to make many manufactured articles in other parts of the world. Very simple equipment was made for the work, and in a few months more than 30 women were employed in making shopping bags and a variety of purses. The Government Department of Industry's teacher of dyeing was called in to give advice. More looms were constructed, and finally the workers were making colorful carpets, ropes, halters, and harnesses.

The industry continued to grow, and employed as many as 120 local men and women. At one season 500 villagers were employed in producing bagging material which had been introduced. Their produce was marketed through the industry. More than 20 additional articles from sisal have been developed, among them shoulder bags, shopping bags, sun hats, berets, men's tropical hats, sandals, belts, table mats, brooches, flowers, needle cases, napkin rings, lamp shades, baskets, string bags, braid, cord, rope cable, carpets, and door mats. For the seasonal market hand-made sisal gunnies, camouflage, and football nets were produced. Rope is always in demand, but there has been conscientious refrainment from making inroads into this hereditary work of the Mangs, except to show them how to improve their methods

and to design an improved jack twister and spinner on which rope cable as large as 6 inches in circumference and up to a mile long can be produced by handpower.

The Government's Department of Industry helped to establish an institute for training students in these arts, and similar industries have been established in other parts of the Bombay Presidency and outside. The war has increased the sure sales of these products. Using the same methods of approach to the people, these leaders brought about another remarkable improvement in the rehabilitation of farms that grew the sisal fiber.

3. *Cooperation of a native state with an American mission.*—The man who developed the agricultural farm at Sangli, western India, was invited by the maharaja of a nearby state to be its prime minister and extend the teachings of the mission farm throughout the state. This outstanding piece of cooperation, which is an example of a somewhat similar use of the service of missionaries in the native state, resulted in an improvement of agricultural practices and of rural education throughout the state. Many of these practices are being continued, even though the founder of the mission has been called to service in another part of India.

4. *Cooperation of an American mission with the Government in the use of breeding bulls.*—The only animals that wander unhindered over fields and threshing floors are the Brahmani bulls, set at large as an act of religious merit, usually on the death of a prominent Hindu. They are generally the only full-grown bulls available for the service of village cows. Having no fixed abode and belonging to no one in particular, the bull is in everyone's keeping and is entitled to a share of everyone's food supply.

The Government, knowing the need for good bulls, has made it possible for each district in the United Provinces to have a free gift of 90 purebred bulls from the Punjab. The idea is that some farmer or a group of farmers will house and care for a bull, as a form of community service. With this idea before them, two rural workers of the Presbyterian Mission got one of the young government bulls for Karimpur. They arranged for a farmer to house and feed it at night; during the day it was put to grazing with the other animals of the village. In his wanderings, like the Brahmani bulls, he grazed where he chose and on several occasions gored some of the inferior bulls. This was not acceptable to the villagers. Had he been a Brahmani bull, they could have said nothing. He would have been no one's responsibility. But this bull belonged to the sahib. And although everyone recognized his latent advantages he was not wanted by any one farmer in Karimpur. There was only one way to save the bull for the use of the village, and that was to accept the customary procedure, and release him and treat him as a Brahmani bull. Accordingly, it was announced that henceforth no one was responsible for him and there would be no one to whom disgruntled villagers could complain. The missionaries are responsible to the Government to notify them if the animal falls ill or meets with any misfortune. The risks are small because of the reverence for cattle and for wandering bulls in particular. Thus has the first step been taken toward a better breed of cattle in the neighborhood of Karimpur.

5. *Cooperative homes of the Irish Presbyterian Mission.*—Some 30 farm colonies in the Gujerat area of the Bombay Province are under

the control and supervision of the Irish Presbyterian Mission. They lie 150 or more miles north of Bombay City in good agricultural land, and are scattered about over a fairly wide area. The first of these had their origin in the purchase of land by the early missionaries for the purpose of settling orphans and underprivileged converts on the land and, by careful supervision, organizing and developing communities indigenous to the soil that would serve as patterns to their neighboring communities.

This close and practical supervision has been effective. Today a fairly large percentage of the settlers own and manage their own farms, cooperative credit societies are operating successfully, and the panchayat (council of five) system of self-government is being successfully introduced. These colonies have good schools, substantial and well-kept homes, an attractive church, and withal an atmosphere of comfortable living. An agricultural missionary serves as friend and adviser regarding crops, livestock, and marketing. He understands the problems and has been able to help generally in better living.

6. *People's Movement, Free Methodist Mission.*—At Yeotmal, Berar, were established a rural demonstration center, a credit union, and a cooperative society, all of which have helped in extension teaching for better rural life, and in the distribution of implements and other equipment.

7. *Extension through exhibitions.*—A poultry program introduced the white leghorn breed to the villages of the United Provinces by having pens of purebred birds. To develop prestige for the improved breeding, the best birds were exhibited at poultry shows all over India and carried away many prizes. This gave rise to an increasing demand for the purebred birds and eggs from the flock. This demand fitted into the program for getting villagers to raise white leghorns in their village homes. When the villagers discovered the demonstrator was ready to advance the eggs to them on promise of future repayment from a successful hatching, the demand was larger than he could meet. The villagers soon discovered they could raise good birds in their village homes. That in itself was a major extension accomplishment.

Every year at one of several poultry shows established by this demonstrator, the villagers would compete for prizes offered for utility and exhibition birds. They soon came to know the fine points of improved birds. Then came the opportunity to sell the birds, and people came from various parts of India to buy them. The largest fair is held at Etah, where as many as 1,600 birds are exhibited and a public holiday is declared.

The demonstrator has sought in season and out to get the villagers to recognize the great food value of eggs. This has been the most difficult part of the program because of the villager's eagerness to add to his meager income. Selling eggs for eating rather than hatching has been a slow development also, but now, with the help of the government cooperative department, strong egg-selling associations have been established.

The project has not been limited to strictly purebred fowl, but has encouraged cross breeding by making available purebred cocks and cockerels. Everywhere now, in the villages for miles around Etah, one finds the white leghorn thoroughly domiciled and capable of producing eggs of good size.

In his entire program through the years, the demonstrator has worked in close cooperation with the federal and provincial Governments.

8. *Spreading literacy and teaching homemaking:*

a. Literacy.

The increase of literacy in the last decade from 8 to 15 percent, has encouraged all agencies—the Indian Adult Education Association, Government departments, Congress, industrialists, private groups—to take vigorous measures. The project of the Christian church has been widespread and basic. The National Christian Council, with the aid of funds from the Committee on World Literacy and Christian Literature has —

- (1) Held public meetings to arouse interest.
- (2) Sponsored the work of experts in 13 languages, to —
 - (a) Make vocabulary studies.
 - (b) Prepare initial charts and lessons and graded materials.
 - (c) Experiment with comparative methods.
- (3) Aided short schools for training teachers of adults.
- (4) Subsidized directors in at least 4 language areas.
- (5) Plans in progress for providing the nucleus for a library whenever as many as 10 Christians can read.

All these projects have been on the basis of cooperation of whole areas and of local funds raised to match the subsidies offered. In this way a solid foundation, but as yet only a foundation for the eradication of illiteracy has been laid.

b. Homemaking.

Study of home and family life is just beginning to be scientifically undertaken. First, groups of those trained in this field gathered for discussion under the sponsorship of the National Christian Council. Now leadership training is in process. An institute of homemaking has been opened in Allahabad. All training institutions have been urged to hold special courses; the Y.W.C.A. has held them. Outlines have been prepared for college students. A comprehensive survey of recommendable materials has been made, resulting in an annotated bibliography for English and a dozen Indian languages. Articles have been published in magazines throughout India. Assignment of needed books on new subjects has been made to authors. Local experiments within individual groups are progressing, to be reported and collected later.

9. *Assistance to local governments by the Rockefeller Foundation.*

—In Travancore the Rockefeller Foundation made an arrangement with the state government whereby it would recruit, train, and pay personnel for a health service and the government would provide the budget for running the work. An experienced American doctor came to organize. He picked two local Indian doctors. They were sent to America for training. One of them opened a health service in the Neyattenpara area of the state, with research and extension health service by nurses and several doctors. The other doctor trained, became the head of the health service and the American doctor was withdrawn. Similar excellent cooperative service has been provided by the Rockefeller Foundation in the Madras Presidency in Mysore State, in Ceylon, Burma, and other areas.

10. *The Martandam rural reconstruction demonstration center and extension service.*—Conducted under the Indian National Council of the Y.M.C.A., the Martandam Center experiments to find types of program and method that the people can use to help themselves upward in all phases of life. It has equipment, seeds, breeding stock, etc., which are lent or sold to the villagers. It provides a circulating library to take literature in the local languages out to the branches in the villages. Classes of convenient duration are conducted for the training of leaders, many of whom work part time without pay in their villages.

Working from this center is an extension department employing young active workers, who move constantly among the villagers, do-

ing intensive work within a radius of 5 miles, less intensive up to 15 miles, and answering important calls for service up to a distance of 100 miles.

Help is given to those families and those villagers in which has been created a "felt need," so that they ask for the services. These families and villagers naturally work enthusiastically, and their contagious influence causes others to copy or to ask for the same teaching.

A careful plan is maintained for the extension area to give the people a balanced, all-round, comprehensive program of self-help for all sides of life. Since the needs of any rural area can be classified as spiritual, mental, physical, and economic, some carefully chosen items regarding each of these are put into the program. Many methods of demonstration are used in teaching; night schools are conducted and exhibitions put on to show results and stimulate like accomplishments. Contact is maintained with approximately 1,000 men and women leaders from various parts of India, Burma, Ceylon, Egypt, and China, who have studied at the center, to encourage them and for the purpose of exchanging news of accomplishments. This center has assisted the governments of Cochin, Mysore, Hyderabad, and Baroda states in establishing and running rural reconstruction centers. It has a close cooperative arrangement with the government of Travancore, receives a small annual grant from the government, and subsidies for certain of its projects. Officers of different government departments freely help with teaching and demonstration whenever requested.

Principles, or Guideposts

This Committee believes that the following principles should guide rural reconstruction and extension in India:

Rural extension ought to be an educational process for the enriching of all of life for all rural people.

The primary agency for policy and program in such a movement must be local volunteers, individuals and groups. The program—

1. For each locality must come from the felt needs of the people and be adopted by and for them.

2. Should contain services bearing on all sides of life, that is, a comprehensive program.

3. Must gradually develop by attainable steps within the financial ability of the people.

4. Should help people to help themselves through participation.

The duty of an extension service is to provide information, technical aid, and inspiration to these primary local groups, but not to enter into competition with them.

1. There must be cooperation among government, private agencies, and the people.

2. Extension agencies ought to have no administrative or regulatory functions over local groups.

3. Extension activities should make wide use of the demonstration method.

4. Extension should assist people in organizing for community action.

5. Extension should discover, develop, and use volunteer unpaid leadership.

6. Liaison must be maintained between extension and research.

In staffing such an extension service, the following are needed in its personnel:

1. Extension workers should preferably be those with a rural background, experts in their fields, and well qualified in the techniques not only of passing on their services to others, but of training villagers to carry on themselves.

2. Workers should live in the village, work solely for its uplift, and themselves participate in some of its economic activities.

3. They must work intimately with people, and have a sincere interest in them and in their inherent desire to raise their economic and social standards of living.

4. They should understand and appreciate the culture, values, and spiritual goals of the people among whom they work.

5. They must be free of any sense of personal superiority based on their own culture or education, and have a real faith in the people among whom they serve.

6. Provision must be made both for preservice and for in-service training of extension personnel.

To realize these objectives in India, the following steps would be necessary:

1. Separation of extension from administrative and regulatory functions.

2. Recognition of the necessity for the government extension program to be a peoples' program, arising from the people.

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Eastern Asia

THE REGION which the Committee on eastern Asia was asked to consider includes China, Taiwan (Formosa), Korea (Chosen), and Japan. For the purpose of a report, this area is divided into three main parts: (1) China and Taiwan; (2) Korea; and (3) Japan. Information available to the Committee with respect to extension systems and programs was more complete for China and Korea than for the

other countries mentioned, and therefore our report considers them in greater detail. Briefer statements are made concerning extension in the remaining areas.

China and Taiwan (Formosa)

China, Excluding the Three Northeastern Provinces

1. *Important Factors in the Socioeconomic Background:*

a. The rural people.—Most observers agree that approximately 80 percent of the entire population of China lives in its rural communities. Less than that percentage is actually engaged in the pursuit of agriculture, a significant number being employed in small businesses and industries, communications, and services. But the economic condition of all of them depends to a large extent upon the degree of prosperity enjoyed by those engaged in agriculture. The importance of rural China and of China's agriculture is therefore evident.

A large proportion of these people are unable to read and write, but they are not ignorant. Long experience with living and working under existing conditions has taught them a great deal about farming and about ways of getting along with one another. They are also informed concerning elements in their history and culture, which they have learned by word of mouth and from the theater. More recent developments have brought them into abrupt contact with the outside world, about which they have been learning the hard way. In the face of difficulties they are patient and persistent. They are hard-working, painstaking, and ready to undertake almost any labor to make a living. They constitute an immense national asset and a solid foundation upon which a stable new national order can be built.

b. Agriculture.—Climatic conditions in China range from the temperate to the subtropical and from the humid to the semiarid and arid, much as in the United States. Therefore, the type of farming differs greatly. In the dry outlying territories are vast areas of grazing land where the cultivation of crops is impossible and livestock raising is the main occupation. In the densely populated regions of greater rainfall crop production predominates.

Within the latter region livestock production is also of some significance. Swine and poultry are important in every part of the area; and large numbers of sheep are raised in the northern, cooler parts. A large proportion of the sustenance of these animals is derived from waste products of fields, farmyards, kitchens, and agricultural industries. The scarcity of land does not permit the use of large quantities of whole sound grain or of forage grown primarily for feeding purposes. Dairying has been developed only around major centers of population.

Crop production is of major importance. Fruits and vegetables of considerable variety and good quality are raised; but most of the land is devoted to field crops. Because of climatic differences, the crop patterns of different parts of the country vary. Two broad crop regions are commonly recognized, the northern part of China, where wheat is the most important crop, and the central and southern parts, where rice predominates. Within these regions, however, there are important variations. Respecting these, one authority has divided China into eight agricultural areas, three in the wheat region and five in the rice region. In the north, in addition to wheat, important crops are millet, kaoliang (a grain sorghum), cotton, soybeans, field peas, mung beans, peanuts, and sesame. There is practically no rice. In the rice region, other important crops are wheat, barley, cotton, broadbeans, soybeans, rapeseed, and tea.

In most of the cultivated parts of China the land is intensively used, and farming is carried on with a minimum of machinery and a maximum of hand labor. Where climatic conditions permit, multiple cropping is common and crops generally are tended with great care. Land holdings are small, the average farm holding being somewhere between 3 and 4 acres. This small amount of land at the disposal of the farmer is a natural basis for conservatism, because he cannot afford to take risks.

Mistakes may often be avoided if it is kept in mind that Chinese agriculture is a well-developed agriculture, based on the accumulated experiences of many generations of farmers. A careful study of all factors in a given situation often reveals that the practices now in use are the ones best adapted to exist-

ing conditions. On the other hand, present practices have developed for the most part without benefit of the contributions modern science can offer; and research can undoubtedly make available to farmers improvements they could adopt with profit. This appears to be particularly true in the fields of crop and animal breeding, insect and disease control, fertilizers, and farm implements.

c. Health and sanitation.—Health and sanitation in rural China have thus far received quite inadequate attention. The beginnings of a public health program at scattered points emphasized such things as fly swatting, vaccination for smallpox, and the proper handling of food to prevent the spread of disease. In most provinces only a few hospitals were giving modern medical attention, mainly under missionary auspices. The larger part of the rural area was not touched by such programs and did not have access to these facilities. The incidence of disease and the death rate were high.

Looking toward the future, any extension program aiming at improvement of these conditions may face a further problem—population increase. With the gradual adoption of measures that improve health conditions, a time may be reached when the death rate will be radically lowered. If that occurs, the population will increase rapidly unless, at the same time, the birth rate also declines through later marriages and an increased desire for such things as education and more material goods. Without a decline in numbers born, a growth of the population from 450 million to 900 million in 70 years would readily be possible. Therefore, the extension of improvements in farm practices, homemaking, and rural health could have as one end result, at some future time, an overpopulation accompanied by conditions more serious in their social and economic consequences than those existing at present.

d. General factors affecting agriculture.—The farmer's economic condition in many parts of the country is affected by several general factors quite apart from those on his farm. One of these is an inadequate transportation and marketing system. Old-time marketing arrangements were satisfactory for the conditions then existing, where agricultural products in the main were used near the places in which produced. This is not true at present, when cotton may be utilized in mills far removed from the producing area and when food surpluses of an area can often be sold at a good price in distant cities. Under this situation farmers lack incentive to produce, and do not receive the benefit of the price that might be received were better transportation and markets available. Plans for future development of these facilities should be of distinct benefit to agriculture.

In certain parts of the country, though not everywhere, the farmer's welfare also is affected by the existing tenancy situation. In general, the amount of tenancy in North China is much lower than in Central and South China. Although the arrangement between landlord and tenant appears to be fair in certain cases, the situation in others is such that the benefits of improvement effected in production or marketing facilities would be absorbed by the landlord without appreciable benefit to the tenant.

Farm credit is another problem. Under the old situation, the rate of interest charged by local banks and money lenders was as high as 3 percent a month, and this still prevails in some places. More recently, credit cooperatives and some of the newer banks, both government and private, have made money available at much more reasonable rates. In certain parts of China, defects in the operation of the land-tax system have also brought hardships to farmers.

In localities where problems of this kind are serious, more benefit may accrue to the farmers through their solution than could come from the adoption of improvements in agricultural practices. Likewise, until these basic problems are somehow met, extension programs in rural health and homemaking will fall considerably short of achieving their potential effectiveness and value to the communities.

e. War damage.—Roughly one-half of the agricultural part of China has been affected in greater or less degree by military action. This includes the fertile, densely populated stretches of the North China plain, the rich lands of the lower Yangtze, and the "rice bowl" of central China. Not all of this territory is now fully controlled by the Japanese, whose domination in many regions is contested by Chinese guerilla troops. But the destruction has been enormous. An immense number of homes have been leveled; work animals and carts have been commandeered by military forces; agricultural implements have been burned or carried off; crops have been destroyed in the field; and an extreme shortage of clothing is felt almost everywhere. Continuing

military action in many regions still makes life and the production of crops uncertain.

Given peace and freedom to act, Chinese farmers may be counted upon to do everything within their power to carry on their accustomed forms of agriculture, which are relatively simple. Because of this and of their proved ability to adapt to circumstances, farmers will be able to reestablish agricultural production on something like former levels in a relatively short time, if given assistance in matters they are unable to handle for themselves. But the total damage will take a long time to repair.

f. Attitudes toward extension efforts.—China's rural people are inherently capable and have demonstrated an ability when given the opportunity to master new techniques and processes. Although the smallness of their farm holdings necessarily makes them conservative about adopting new practices, they can be counted upon to accept those innovations that are clearly seen to be economically profitable and successful under their conditions.

Among the educated citizenry and officials of the Government are found a number who fully recognize the nature and extent of the rural problem and of the general procedures that ought to be followed to bring about a proper development. However, the problems of agriculture are often not viewed realistically, and sometimes are considered of minor importance. Different plans for postwar development are now being considered, but thoroughgoing plans of the Chinese Government, adequate to meet the needs of the situation, have not yet been made.

Many college graduates specializing in agriculture feel that extension work does not carry the personal prestige given to other forms of work such as research and teaching. They likewise lack an appreciation of the opportunity extension work affords and its significance in the development of the nation.

An impetus toward an increase of extension work in China may be found in one of the three principles of Dr. Sun Yat-sen, namely, the livelihood of the people. Extension work, by bringing the farmer that which will improve his livelihood, can become one of the most important links in the chain of efforts aiming at a better home and community life.

2. Extension work before and since the war:

a. Programs and organizations.—Extension efforts on the part of the Chinese Government may be said to have begun in 1915, with the creation of an office of agriculture and extension under the Ministry of Agriculture in Peking. Lacking, however, was the basis in research and organization upon which a successful venture could be built. Lack of the same basic foundations prevented the successful establishment of a national program in extension for the succeeding two decades.

During that time, however, effective extension work, sponsored in part by Government and in part by private agencies, was done in a more or less unconnected manner in a number of different places. In 1918, under the auspices of the Chinese cotton millers, a large-scale program of research in cotton improvement was undertaken at the college of agriculture of the National Southeastern University, Nanking. At about the same time the University of Nanking also undertook a program of cotton improvement. These programs were followed by an extension of the improved varieties already developed. Work with cotton was later taken over and expanded by the Cotton Control Commission, created by the Chinese Government in 1933. New varieties better than those first developed were found, and extension programs were established to popularize their use among farmers.

Work in the improvement of rice and wheat, begun somewhat later than the work with cotton, eventually became national in its scope. Prominent in the development of this effort were the University of Nanking, the National Southeastern University, and later, the National Agricultural Research Bureau. A well-planned program of improvement of these crops was undertaken, in which specialists from the United States assisted. The program was based mainly on the selection of superior strains from native varieties. Cooperating stations were established in nearly every important wheat- and rice-growing region in China, to develop and distribute improved strains adapted to local conditions. By 1935 a total of 107 superior varieties of 7 different grains were being extended or multiplied for extension. Of these, 35 were wheat varieties, developed at 14 different stations; and 28, rice varieties developed at 10 different stations. A coordinated effort to extend these varieties was being organized on a national scale by the National Agricultural Research Bureau

when the Japanese attacked in 1937. War made it necessary to abandon a large part of the original plan, but efforts to introduce the new varieties continued in the parts of China not occupied by the Japanese.

About 1918 a group of silk merchants at Shanghai organized an association for the improvement of sericulture of China. In later year this association made efforts to introduce disease-free silkworm eggs to the farmers. A considerable amount of similar work was carried on by the Girls' Sericulture School of Kiangsu Province, Lingnan University, and the University of Nan-king. The combined efforts of these agencies are credited with contributing to the progress made in the silk trade before the outbreak of war with Japan.

Other programs organized during the decade prior to 1937 included the manufacture and distribution of antirinderpest serum, which was first started in 1928 by the Bureau of Inspection of Commercial Commodities at Shanghai. Later this program was much expanded by the National Agricultural Research Bureau, and serum was used for the prevention of this disease in cattle in central, southeast, and northwest China and to some extent in Inner Mongolia. The manufacture of insecticides and fungicides was also undertaken by the National Agricultural Research Bureau, and their use was widely promoted, although the lack of a national extension system has prevented satisfactory distribution.

A rather large program of livestock improvement was reported from Sinkiang, where the Sinkiang Provincial Government invited the cooperation of Russian technicians. Breeding work has been done with sheep, horses, and cattle, using purebred stock imported from Russia. Some success was reported, particularly in the sheep program. Serum for the prevention of rinderpest and anthrax was manufactured in Urumchi and distributed among farmers. Some breeding work with sheep, horses, and cattle was also reported in Outer Mongolia.

Experimental work in the improvement of hogs was carried out over a period of years by the National Mass Education Movement in Hopeh and later by the National Central University. A sheep-breeding program aimed at the production of finer grades of wool was developed by the Department of Agriculture of Oberlin in China, in Shansi; and work with poultry was undertaken at a number of different stations. Some extension of the results obtained in these breeding programs was undertaken locally, where efforts were made to introduce improvements that appeared to have promise, but it is doubtful whether extension of these results on a large scale is as yet practicable or advisable. In a different category, mention should be made of the successful efforts of Lingnan University with fruit, which included the introduction and extension of the papaya.

In fields other than agriculture, special mention should be made of the work of the Mass Education Movement, which experimented with an approach to rural reconstruction that included attention not only to economic improvement but also to literacy, health, and citizenship. The experiments conducted by this organization have had wide influence upon thinking and action throughout China. Significant programs of somewhat similar nature were developed by a number of missionary groups in schools and rural church centers. These programs attempted to popularize rural health measures, develop homemaking programs, introduce home industries, and approach rural improvement on the basis of "all-round" development of the person.

Though the foregoing is not a complete list of what has been done in relation to an extension program in China, the general nature and scope of the work are indicated. It remained for action taken in 1938 to establish the beginnings of a coordinated national program of agricultural extension in the formation of the Agricultural Production Promotion Commission. This was first created by the Chinese Government as an independent agency under the executive Yuan; but in 1942 was transferred to the jurisdiction of the Ministry of Agriculture and Forestry and combined with other agencies working along similar lines into an Extension Commission. The main task of these agencies was to promote agricultural production through extension. Under their general direction, agricultural extension agencies were set up in 11 provinces, and 418 hsien (county) extension offices had been organized by 1943. The organization of agricultural societies was also promoted. By September 1943, 10,148 such societies were reported to have been organized, with a total membership of over 2 million persons.

Although the beginnings of a national effort in extension have taken shape in this organizational set-up, a satisfactory national system of extension is

not claimed to exist as yet. The present organization is thought of rather as the beginning of an extension system upon which a more adequate system will later be built.

b. Methods.—The methods thus far used to obtain adoption by rural people of desired innovations have ranged from the educational allowing complete freedom of choice, on the one hand, to the compulsory allowing little or no freedom of choice, on the other. In the educational procedure, much emphasis has been placed on county fairs, lectures, posters, and demonstrations on farms or in the homes of cooperating farmers. In the compulsory type, the tendency has been to adopt a paternalistic attitude toward rural people and while giving a certain amount of explanation and demonstration, to require that a thing be done whether or not the farmer himself voluntarily chooses it.

Among private agencies, the former type of approach has been the rule. In the government efforts, both types of procedure have been employed. Observers recently returned from China report that agricultural leaders there are not agreed as to the best method of conducting extension and that probably more leaders are in favor of compelling farmers to adopt new practices than are in favor of using the voluntary educational methods on which the extension program of the United States is based.

3. Guideposts for consideration in extension work:

a. Relationship to national program.—The interest in rural reconstruction which developed in China before and since the outbreak of war with Japan may be expected to result later in a national program of rural reconstruction. Organizations that contemplate doing extension work in China may do well to consider how their efforts can be correlated with similar national efforts. Thus far the Chinese Government has welcomed assistance from outside agencies friendly to China, and it may be anticipated that this attitude will continue. Considering the immensity of the problems involved in a reconstruction of rural China and the inadequacy of the resources that may be available for this work after the war, greater effectiveness and greater final accomplishment will probably be achieved if extension programs of nongovernment agencies are planned in relation to the national program. This relationship might in some instances take the form of direct cooperation with projects of the national program. In others it might consist of pioneering in directions not covered by the national program, but allowed by existing government regulations.

b. Agricultural materials for extension.—As already indicated, a shortage of well-tested agricultural materials has been one of the factors limiting the development of a national program in agricultural extension in the past. Experiment stations operating in a number of different regions have now developed a limited number of materials or improved practices that may be safely recommended for the farmers' use; and a sound program of agricultural extension can usually be based only upon use of such materials. Because of the difference in environmental conditions, some of which cannot ordinarily be anticipated, use of untested practices will often result in failure.

Emphasis of this elementary point seems worth while because the uninitiated are tempted to believe that what does well in other places should do well also in China. Money and effort have been wasted in the past through use of unadapted material, and this danger may exist in connection with programs of relief, rehabilitation, and reconstruction in the future. The safest seeds or other agricultural materials are those used successfully under local conditions; all but those well tested locally are to be looked upon with question.

c. A total program.—The factors in the socioeconomic background of rural China already outlined in this report make clear that improvement in agricultural practices alone will not solve the problems existing in rural communities. A considerable improvement in some farmers' economic situation may be brought about by changes in tenancy and the tax system, or by improvements in transportation, marketing, and credit arrangements. A need also exists for the adoption of measures that promote improvements in sanitation, medical care, nutrition, child care, and literacy. These goals, obviously, will require a program which includes both agriculture and homemaking, and the use of both men and women leaders.

Sources of income outside the farm likewise are necessary. Because of the small size of the farm, the income from farming alone will never of itself provide a high standard of living. At the same time, members of the farm

family and unattached laborers have leisure during the slack seasons on the farm that might be employed in labor of some other sort. The promotion of village and home industries, therefore, might be given serious consideration in planning for the development of rural communities.

d. Personnel.—One of the most serious hindrances to the development of extension work appears to be a shortage of suitable personnel. To provide such personnel, a special type of student and of training would seem to be required. Suitable training material might best be found among students with a farm background, and a course of training probably should include study and practice of suitable extension methods as well as emphasis upon attitudes. For particular purposes, the possibility of using men and women having a suitable background but with training devoted mainly toward the specific task in mind might be considered.

Attention to the general thinking nationally with regard to rural improvement would also seem desirable. In the words of one of the Chinese members of the Committee, thinking must be oriented to the modern viewpoint of education for living. Greater progress in extension may be expected through realization that the satisfactions to rural peoples, brought about by improvements in their conditions, can be satisfactions to the entire nation; that the security of rural peoples is the basis of security for all; that their dignity is the real basis of honor for the nation; and that through the training of men's power to make happy homes in which children can grow healthfully and satisfactorily, farmers are given their right as citizens of a new era.

e. Approach to the farmer.—Experience in a number of instances has demonstrated that the Chinese farmer will accept readily those improvements that are seen to be practical and superior to the ones formerly used on his farm. With so small an amount of land, a farmer cannot afford to experiment. He can wisely adopt only those new practices that with certainty are better than the ones already in use. On the other hand, he is anxious for the same reason to adopt that which will bring him higher yields, in order to obtain the maximum amount of produce from the little he has. When Chinese farmers are reported unwilling to accept innovations, usually either the innovations themselves were of questionable utility, under the conditions or the value of the new practice was not fully demonstrated. As has already been pointed out, the Chinese farmer is not an ignorant person with respect to his farm and his community, but is appreciative of improvements that really benefit him, and is able to make use of them.

Where extension has been the most successful, the following general steps preceded any attempt to achieve a general use of the new practice: (1) The practice itself was based upon the results of careful experimental work under conditions similar to these on the farm in question; (2) efforts were made to educate the farmer with respect to the value and use of the innovation being introduced; (3) the innovation itself was demonstrated on a number of farms in the community in such a way that its advantages under the farmers' own conditions were obvious.

f. Approach through youth.—Although innovations in rural communities may often be brought about through an approach to the mature persons involved, attempts to introduce certain desirable changes which cannot easily be demonstrated may encounter greater resistance. An approach to the youth of the household would naturally be thought of in such instances. Certain factors in the situation make such an approach more difficult than in the United States. Farmers have less land and livestock for what might be considered an experiment; many of the young people themselves have little or no formal education; and the opportunity or desire to take initiative may be lacking in less developed regions. On the other hand, the educated youth of China have played a significant part in national developments during the past several decades, and rural youth, if properly organized and aroused, may reasonably be expected to help in solution of the problems of developing rural communities. Organization into clubs or associations that centered around specific improvement projects and yet included other activities such as literacy courses, might readily form the center around which such efforts could be organized.

g. Methods.—The methods to be used in extension work in rural communities would naturally be determined by the requirements of both the social good and the good of the individual. A certain amount of compulsion is used in every country in the interest of the highest welfare of the greater number. Lest undue emphasis be placed on this method, it would seem important to point out that the Chinese farmer has already demonstrated himself capable

of making changes of his own volition when they were seen to be clearly to his advantage. Likewise, the use of compulsion merely as the easier method works against the development of individual personality and the spread of democratic processes. By neglecting the possibilities for development that lie in the use of educational methods to bring about rural improvements, there may be lost an important opportunity to strengthen the base of the nation, which lies in the mass of its people.

The Three Northeastern Provinces (Manchuria)

The three northeastern provinces of China constitute what is commonly referred to in western countries as Manchuria, and for convenience this region will be so termed in this report. Manchuria is a large region, about equal to the combined areas of Germany and France. It is treated separately in this report because, under the influence of a Japanese occupation since 1931, its extension developments have been different from those in the rest of China.

1. *Agricultural characteristics.*—In the western, drier parts of this area, which is still predominantly Mongol in population and atmosphere, livestock raising is the main occupation. Sheep, cattle, goats, horses, and camels are raised in much the same way as in Inner Mongolia. From the standpoint of the relative value of the agricultural products and the number of people involved, however, it is much less important than the remaining part of Manchuria, where crop raising predominates.

This remaining part resembles the rest of China in the type of crops grown, in the subordinate place assigned to livestock raising, and in the large use of hand labor. With respect to arable land, however, the situation is different. Manchuria is still a land with large amounts of good undeveloped land available for agriculture, the total quantity yet to be developed being estimated at somewhere around 30 million acres. Likewise the present area per farm household is larger; in the more densely populated portions of South Manchuria it is about 16 acres; in North Manchuria it is about 15 acres. A large part of this cultivated area is found on the large central plain and in valleys leading off from it. The slopes and valleys of the surrounding mountains have been put under cultivation in the eastern and southeastern parts of Manchuria, but elsewhere the population is sparse.

The export of soybeans during the years preceding the war averaged somewhere around 2 million metric tons annually, and this large surplus has given a popular impression that little besides soybeans is grown there. Although somewhat more land was devoted to this crop than to any other during the period 1934-38, the soybean occupied only about 27 percent of all the land planted to cereals and beans. In point of total production, kaoliang was slightly higher. Millet was also an important grain raised for human consumption in nearly all parts of Manchuria. In the eastern and southeastern parts maize was grown to a considerable extent. Wheat and potatoes are important in northern Manchuria; and increasing quantities of rice have been grown, particularly during very recent years.

Estimates indicate that the amount of food available to the person in this region before the war was somewhat greater than in the rest of China. The diet pattern, however, was similar, being made up largely of cereals and smaller quantities of soybeans and vegetables as supplementary items. Animal products formed a very small part of the average diet.

2. *The rural people.*—The total population of Manchuria before the war was estimated at about 38 million. Farm households were about 80 percent of total households, and of those reported to be engaged in agriculture and forestry in 1937, 97.5 percent were classified as Manchukuoans. Koreans made up about 2.4 percent, Japanese less than 0.1 percent. Of the number classified as Manchukuoans, roughly 3 percent were Mongolians, living largely in western Manchuria. Koreans were concentrated in the provinces adjoining Korea.

Since 1937 the Japanese authorities have greatly encouraged the immigration of Japanese and Korean farmers, and high hopes were officially entertained that this movement would be of considerable proportions. By the end of 1942, however, only 57,000 Japanese households, with a total of 146,000 persons, were reported to have migrated to Manchuria for agricultural work. In addition, Korean farmers and laborers connected with a Japanese Youth Volunteer Corps and Patriotic Labor Service Corps entered Manchuria for agricultural work. These additions must have increased appreciably the number of Japanese and Korean farmers in certain areas; but in comparison with a total rural population of somewhere around 30 million the proportion of non-Chinese is insignificant.

Having come rather recently from other parts of China, this large rural population does not differ greatly in characteristics from those in other parts of China, already described.

3. *Extension work.*—In the period prior to 1931, a certain amount of extension work was done by the South Manchurian Railway looking toward the improvement of agricultural products such as the soybean, important in commerce. Beginning about 1937, an active national policy toward agriculture in Manchuria was adopted by the Japanese authorities. The general intent of this policy was to develop Manchuria as a source of agricultural materials needed by Japan in the prosecution of the war. Rice and cotton developments were emphasized at the beginning; wheat and soybeans were also given attention; and the increase of nearly all kinds of foodstuffs was encouraged. This general policy has continued up to the present.

To promote this policy, Japanese and Korean immigrants were encouraged to farm the land made available for rice cultivation through reclamation and the establishment of irrigation facilities. Chinese farmers were encouraged to increase the output of other crops. By 1943 an organization, national in scope, had developed centering around what was called the Concordia Society. This had a central headquarters, provincial headquarters, and offices in districts, and apparently operated in close relationship with the Government. Into their hands was put responsibility for carrying out the desired agricultural program. Production and collection quotas for the different crops were set by district, and efforts were made to see that these quotas were reached. In the earlier parts of the program, at least, farmers were given awards for superior accomplishments, lectures were given, and the entire effort was considerably publicized. Subsequently, however, compulsion played a much greater part in this program. A general extension program looking primarily toward the welfare of the rural people has not yet been undertaken.

Taiwan (Formosa)

1. *Agricultural characteristics*.—Taiwan is an island off the coast of the mainland of China, lying opposite Fukien Province, with a maximum length of nearly 250 miles and a maximum width of a little less than 100 miles. Its entire area is about equal to the combined area of Massachusetts and Connecticut, or about 3.5 percent of the size of Manchuria. Its central and eastern portions are made up for the most part of rugged mountains, and agriculture is confined largely to the western quarter of the island.

This area has been intensively developed by the Japanese authorities to form a source of products needed in Japan that can be grown under a semitropical environment. So successful have these efforts been that, in addition to supplying the major part of the food needs of a dense population of Taiwan itself, the island has exported sufficient sugar to meet the greater part of the sugar needs of the whole Japanese Empire. About half of its entire crop of rice and substantial quantities of fresh fruits, dried sweetpotatoes, and tea are also exported.

In the northern half of Taiwan rice is the most important crop. A well-developed system of irrigation and drainage and heavy use of commercial and other fertilizers make possible two crops a year on a large part of the rice acreage, with high yields. Most of the tea and citrus fruits are also produced here and vegetable growing is important. Rice is also grown in the central and southern part, where most of the sugarcane is produced. Bananas and pineapples are grown in the same area in considerable quantity, as are smaller quantities of a large variety of other tropical and subtropical fruits. In addition to sweetpotatoes, peanuts are grown in appreciable quantities throughout the cultivated area of the island.

Taiwan has a combination of large-scale plantation agriculture, largely in sugarcane and pineapples, and small-scale agriculture centering on production of the ordinary food crops. Data for the total quantity of land under each type of cultivation are lacking, but reports state that in 1930, 30.1 percent of all cultivated land was in farms above 12 acres in size. In contrast, about 53 percent of all farmers cultivated less than 2.4 acres, and 30.3 cultivated less than 1.2 acres. With respect to tenancy, about one-third of all farm households (in 1939) were owners of the land they cultivated. Somewhat more than one-third were full tenants, and the remainder owned part and rented part of their land. Of the better irrigated land, the proportion of owners was still lower. Under such a situation a considerable number of the rural people would inevitably live perpetually on the margin of subsistence.

The animal industry of Taiwan is more highly developed than that in the other parts of the area reviewed in this report. According to official statistics, each farm had an average of about 20 head of poultry and 4 of swine. The amount of meat and other products supplied by this livestock made available a considerably larger quantity per person than is common in other parts of eastern Asia.

2. *The rural people*.—The population of Taiwan is placed at about 6 million. In spite of the large proportion of the island that is mountainous, the average density for the whole in 1937 was calculated at 404 persons to the square mile. Approximately 93 percent of this population is estimated to be of Chinese descent. Japanese constitute between 5 and 6 percent of the total; and something like 150,000

aborigines live in the mountainous districts, a part of whom still resist Japanese authority. For several decades the proportion of farm households to total households has been declining. In 1937 farm households were stated to be about 50 percent of all households.

A large part of the Chinese population of Taiwan came originally from Fukien and Kwangtung, and much that was said of the characteristics of Chinese on the mainland applies to Taiwan Chinese as well.

3. *Extension work*.—As already stated, a considerable amount of effort has been exerted by the Japanese authorities toward the improvement of agriculture on Taiwan, according to their policy of fitting the production of this island into the needs of the Empire. To form a basis for this development, a large number of experiment stations were established to work for the improvement of crops, the control of insect and disease pests, the correct use of fertilizers, and the improvement of cultivation practices.

The improvements developed by this program have been gradually brought into use by a combination of efforts of commercial firms and the Government. Government efforts, as in Korea, have made use of both persuasion and compulsion. Agents have been maintained who demonstrated and explained the use of improvements. Considerable use has been made of agricultural associations. These are a farmers' association of Taiwan and a livestock farmers' association, regulated and to some extent controlled by the Government. A large number of purely voluntary associations of many kinds have dealt with individual crops or forms of livestock. Government efforts have often worked through these associations, which purchased fertilizers and performed other services for their members. Large sugar companies included in their contract with farmers an agreement concerning the use of fertilizers and other items in farm practice desired.

In addition to improvements in agriculture, some in rural health have been brought about by vaccination for smallpox, inoculation against cholera, and other public-health measures. An attempt has also been made to improve the landlord-tenant arrangement, which has resulted in the establishment of a large number of tenant-farmer associations including in their membership both tenants and landlords. These associations promote written contracts and handle disputes, and have contributed to a betterment of the conditions of the tenant, although without radically altering the system.

Korea (Chosen)

Socioeconomic Background of Agriculture in Korea

1. *Agriculture in national life*.—Korea had a population of 24,326,327 in 1940; 97 percent were Koreans, less than 3 percent Japanese, and a few Chinese, Europeans, and Americans. Approximately 75 percent of the Koreans in Korea are engaged in agriculture. In 1938 about half of the gross value of all production was contributed by agriculture; this gross value amounted to a little less than 100 yen per person, as compared to 1,600 yen per person for those engaged in industry. The downward trend in prices of agricultural products throughout the world and the still greater decline in Korea which began in 1926 had serious repercussions on her agricultural economy. The total value of agricultural production fell 30 percent in the 4 years

1928 through 1931, and at the same time the disparity between prices paid and prices received by farmers increased greatly. Actually, however, the repercussion of the world depression merely accentuated certain basic defects in Korean agricultural economy which had been contributing to the growing poverty of Korean farmers for many years. Fundamental factors contributing to this condition are the ever-increasing pressure of population on the arable land, the low fertility of the soil, the use of primitive farm practices, high rents, high taxes, and the Japanese policy of directing production toward export crops.

About 71 percent of the cropland is devoted to growing grains, of which rice is the basic crop, with barley and millet ranking second and third in importance. Rice acreage has increased 20 percent since the annexation in 1910, and yields have been improved by the introduction of new varieties and by the use of improved techniques of culture. Around 10 million bushels of wheat are harvested annually, chiefly for home consumption, which the introduction of small flour mills of about 10 horsepower for village use has helped to popularize. About 25 percent of the soybean production is exported to Japan; a number of small plants for extracting the oil are located in Korea. Cotton culture has been encouraged by the Japanese for many years, and by 1942 the acreage, although still small, had increased considerably above the 1935-39 average. Tobacco is grown throughout the peninsula, and as a result of the introduction of heavier yielding American types Korea has changed from a net importer to a net exporter of tobacco in recent years. Apples and pears are grown commercially, and large quantities are exported, chiefly to Japan, Manchuria, and China. In addition to these major commercial crops, large quantities of cabbage, turnips, beans, and other vegetables are grown for home consumption. In general, yields per acre in Korea are much lower than yields in Japan. Factors contributing to poor returns are the scanty use of fertilizers, fluctuations in rainfall, poor irrigation facilities, and uneconomic farming practices.

Native Korean cattle are used for farm work and provide good-quality beef and hides; both cattle and hides are on an export basis. Berkshire and Yorkshire hogs have largely replaced native hogs, and flocks of white leghorns have increased rapidly. Despite Japanese attempts to increase wool production through importing and crossing several breeds, Korea had only 27,000 sheep in 1938. Sericulture has increased in importance, and today provides a large part of the cash income for many farm households. The introduction of new varieties of worms and improved methods of disease control, together with a new system of mulberry culture, has been important in raising the production of cocoons from about 400 tons in 1910 to 22,713 metric tons in 1940.

Japanese agricultural policy in Korea has largely been directed at increasing the acreage and yield of rice and expanding exports to Japan. In addition, however, some emphasis has been placed upon increasing the production of other crops and livestock products, particularly those that Japan needed to import. Improved transportation facilities have made specialization possible and encouraged the growing of commercial crops. In addition, the use of small machines has grown rapidly and increased the need for cash income. The net result has been a rapid change from an almost self-sufficient agricul-

ture with local handicraft industries, to a highly commercialized agriculture associated with a decline in handicrafts and rapid increase in the imports of Japanese manufactured products.

2. *Tenure conditions and rural welfare.*—Though the agriculture of Korea has rapidly become commercialized, the high rate of natural increase has intensified the pressure of population on the land. Migration abroad and industrialization have not been able to absorb the excess rural population, so tenure conditions have steadily become worse.

In 1938 the rate of natural increase in Korea was 18.6 per 1,000 population, compared with 6.9 for the United States. This extremely high rate of increase occurred because the high birth rate in Korea—36.1 per 1,000 compared to 17.6 in this country—more than offset the higher death rate, which was 17.5 per 1,000 in Korea compared to 10.7 in the United States. From 1930 to 1938 the population increased by 2.3 million people, or about 11 percent; reflecting the increase in population, the number of farm households increased by over 6 percent during the same period. At the same time the area of arable land increased but 1 percent.

In 1931, 80 percent of the farmers were tenants or part tenants, and 50 percent leased all the land they tilled. Tenant-squatters or “fire-field tillers,” who burn over unutilized land in remote areas and move on as soon as the soil is exhausted or washed away, numbered about 250,000 in 1938. Since 1931, the percentage of farmers who are tenants or squatters has increased steadily.

Though tenancy has been increasing, competitive bidding for farms has forced rents to as high as 80 percent of the product of the land. The usual rent is 50 percent of the product and the tenant pays all expenses of production and taxes. In the south of Korea, where competition and insecurity were greatest, many tenant associations sprang up during the depression. In seeking improved conditions, the associations frequently clashed with the police, and the number of tenant disputes increased from 15 in 1920 to over 6,000 in the first half of 1935. The growing unrest and poverty of the tenants forced the Japanese Government to pass a series of tenure laws that placed ceilings on rents, lengthened the period of the lease, gave greater security of occupancy, assisted a few tenants to own farms, and established a system of arbitration of disputes. These measures have eased the situation a little, but many tenants have avoided difficulty by making gifts to obtain the good will of the landowner or his agent.

The size of farms is directly associated with the pressure of population on land resources. The average farm size for all Korea has declined to $3\frac{1}{2}$ acres; however, the size varies greatly in the different regions, with smaller farms predominating in the south. In 1938 about 63 percent of the farm families cultivated farms less than $2\frac{1}{2}$ acres in size, and about one-fifth of all farms were only a little over 1 acre. With such small farms, high rents, and growing cash expenditures, many farmers end the year in debt, particularly if they have had the expenses of a wedding or funeral. About three-fourths of all Korean farmers are in debt, the average debt being approximately 170 to 200 yen per family. Interest rates are very high, averaging about 30 percent per annum and, inasmuch as most loans are made to cover deficits or family expenses and are not productive in nature, repayment is an added burden on an already inadequate income.

Japanese ownership of land has steadily increased and displaced many native farmers and landlords. By 1930 about 11 percent of the taxable land was estimated to be owned by Japanese. In general, land ownership is concentrated in the hands of a small minority and this concentration of ownership has increased during the period of Japanese control.

As a result of all the foregoing factors, the level of living of the rural people has declined steadily; estimates indicate that the per capita consumption of rice declined from 220 pounds in 1912-16 to 157 pounds in 1936 because farm families ate cheaper grains such as barley and millet and sold more of their rice in an attempt to increase their cash income. In early spring many farm families have insufficient food because their winter supply is used up, and they are reduced to eating bark and roots if their crops were small or their winter long. This is the period of "spring suffering" which lasts until new spring crops are available.

During recent years, migration from rural areas has been more rapid; the population of 20 principal cities increased over 37 percent from 1937 to 1940, and this growth has probably continued. At the same time migration into Manchuria is reported to have increased. This migration may have temporarily reduced the intense competition for land.

3. *Trade and industry.*—Over 70 percent of Korea's exports, which have increased greatly since 1910 when the Japanese formally annexed Korea, go to Japan. Until 1936, rice made up half of the value of Korea's exports to Japan, but recent increases in other exports have made rice relatively less important. Japan supplies about 80 percent of Korea's imports, which consist largely of clothing, chemicals, metal goods, and some foodstuffs. The value of imports has exceeded the value of exports for many years and continues in spite of a 65 percent increase in exports from 158 million dollars in 1935 to 262 million in 1939.

Increased Japanese ownership of industrial and agricultural corporate enterprises has resulted in the displacement of some Korean owners. In 1938 Korean capital accounted for only 11 percent of the total capitalization of industrial corporations and only 20 percent of commercial and agricultural corporations. Most Korean industries are small in scale and not incorporated. The role of the Koreans has tended to become that of workers in Japanese owned or controlled enterprises where large-scale corporate industries and utilities have developed. Associated with this development has been a rapid growth in transportation facilities including roads, railways, and harbor facilities.

With the development of electric power, several of the large Japanese industrial concerns are exploiting the mineral resources and industries of the country. Although these increased industrial activities are an outgrowth of the war, they may serve as a nucleus for the further industrial development of an independent Korea. This factor will be most important in raising the level of living of the rural people, particularly if small-scale industries are developed.

4. *Characteristics of the rural people.*—Historically, Korean farmers have not been organized except in small local groups that might meet and petition a landlord or local official to obtain a redress of their grievances. Power used to flow from the emperor to the provincial

governor and to the county officials. Justice was often arbitrary, and punishment for rebellion against decrees was severe. Social unrest, which developed in Japan after the first world war, spread to Korea through workers and students returning from that country, and today the rural people have had sufficient experience in organizing associations and cooperative activities to enable them to work together to establish better conditions of tenure and improved means of production.

Illiteracy is widespread among Korean farmers. Dr. Hoon K. Lee reports that in 1931, 43 percent of the men and 77.5 percent of the women on farms could not read Korean, and 48.7 percent of the men and 83.6 percent of the women could not write. Ability to read and write the Chinese characters used extensively in mixed script is even less common. Sixty-four percent of the men and 96.4 percent of the women could not read Chinese; 66.5 percent of the men and 96.9 percent of the women could not write it. The degree of illiteracy for the country as a whole, however, would be much less than these data indicate because the study was confined to farm families. Actual figures are not known, but a large percentage of men in cities and towns probably are able to read and write Korean native script today, and perhaps a smaller percentage of the Korean women have this ability.

In many rural areas farm people are still dominated by old customs that call for large expenditures for weddings and funeral ceremonies. Probably Korean farmers have more money today than they did 20 years ago, but their cash expenses have also increased as a commercial economy has replaced the old exchange between local hand-produced products and farm products.

Education is highly respected, and the general attitude toward the Government will probably be constructive, particularly if the old Myun organizations can be rapidly placed on a democratic basis. However, three opposing philosophies of government provide the basis for serious conflicts in the future. The younger men, many of whom have been to Japan to study or to work, have absorbed radical and communistic concepts of a doctrinaire kind. They would socialize all land by expropriating it from the present owners, both Korean and Japanese. These ideas are widespread, although the numerical strength of their adherents is not known. On the other hand, the older generation of tenants would be opposed to such revolutionary changes and seek only lower rents, larger farms, more secure occupancy, and possibly a gradual increase in the number of owner operators. The real reactionaries are to be found among the landowners, who wish to perpetuate their own power and influence and would use the Government to achieve that end.

In the past, the women of Korea have occupied a position inferior to that of men. This attitude has been greatly modified as a result of missionary activities, particularly in the educational field, where high schools and colleges for women have been extensively developed. These activities, however, have not penetrated many of the rural areas, and widespread efforts to improve the position of women are still needed.

5. *Rural health*.—Rural health problems may be summarized from the following facts: (1) Human excrement is used extensively, particularly in the growing of vegetables, and is not sterilized; (2) toilet facilities are of the open-pit type; (3) flies are a pest, and the houses

are not screened; (4) intestinal parasites and diseases are endemic; (5) the use of patent medicines is widespread, and, in 1931, 1,593 samples of these were condemned as unwholesome or injurious after analysis at government laboratories.

Vaccination against smallpox has been enforced by the Government, and the ravages of this disease have been greatly reduced. Although local officials have also encouraged the digging of community wells provided with stone or cement tops to prevent the infiltration of impure surface water, many local water supplies are still impure. The crude death rate, as previously stated, is 17.5 per 1,000 and, though detailed statistics are not available, the infant mortality rate is undoubtedly very high as a result of widespread "summer sickness," an intestinal disease similar to dysentery. In 1931, 6,615 cases of typhoid fever were reported; 2,190, of scarlet fever; 1,912, of dysentery; 1,376, of smallpox; and advanced cases of leprosy were estimated at 7,000. Tuberculosis is also widespread, but no estimate of its incidence is available.

A great need exists for teaching rural women in Korea almost all aspects of simple nutrition, hygiene, and child welfare. Unless a rapid expansion of population is to result, however, improved medical and hygiene teaching should include modern methods of regulating the size of the family. If population expands rapidly as industrialization develops and production is expanded, progress in raising the level of living will be retarded or nullified.

Extension Work in Korea

1. *General development.*—Korean agriculture has developed rapidly during the past 50 years with the growth of commercial farming. This has been achieved by a combination of agencies, but the Government has played a leading role through its relatively well-developed system of experiment stations and extension work. Missionaries have also played an important part by introducing new crops and methods, by helping to break down the antagonism and resistance to anything taught by the Japanese no matter how valuable it might be, and by direct education and demonstration programs. A brief summary follows of the part played by these agencies, by private Koreans and commercial enterprises.

The Koreans are receptive to new developments when these can be demonstrated to be advantageous to them and provided high pressure or coercion is not used to obtain compliance. In 1926 the Government brought all the local agricultural associations under uniform rules and regulations. At that time about 500 of these associations, with a membership of 3 million persons, and the Government used them extensively to spread improved agricultural practices. Missionary activities, on the other hand, have largely used local churches and Christian leaders in their agricultural extension work.

2. *Government agencies.*—In 1906 a government agricultural experiment station was established, and branch stations were subsequently developed in each of the 13 provinces. Some of the branch stations were devoted to general agricultural research, others specialized in certain narrower fields such as livestock breeding, sericulture, or horticulture. A great deal of progress has been made; better varieties of plants and animals have been tested and introduced; fertilizers best suited to the varied Korean soil requirements and the crops

grown have been determined; methods of culture and crop rotations have been widely tested. Most of the publications have been in Japanese and many are of a highly technical nature.

The Government General reported that 4,371 agricultural experts were employed in 1931; these were distributed among the following fields: Agriculture, 1,893; sericulture, 771; livestock, 594; land improvement, 124; and forestry, 989. In addition, a large number of assistants less well-trained were employed. Many of the experts were employed at the experiment stations and provincial administrative offices, and the field workers were often the less highly trained assistants. The means used to encourage the adoption of new varieties or practices were demonstration plots, lectures, and subsidies. Coercion was sometimes used. Little use has been made of material printed in the native Korean script.

Associated with the experiment station is a college of agriculture and forestry, which trains students to become specialists in one of several fields of agricultural science. In 1929, two-thirds of the students of this agricultural college were Japanese. In addition there were 24 agricultural high schools scattered throughout the country which usually were associated with a model farm or branch experiment station; and 44 supplementary agricultural schools, where practical agricultural courses could be taken for 1 or 2 years. In 1929 there were over 6,000 Korean students attending agricultural schools.

A great deal of emphasis has been placed by the Government on improved rice production. After new varieties and culture methods were tested they were demonstrated to the Koreans in numerous plots scattered all over the country. New seeds and fertilizers were rapidly made available, and the average rice yield has been increased 25 percent during the past 20 years with much of the increase occurring in the last decade.

Barley yields have also been increased by the adoption of hull-less varieties; in 1941 the farmers were paid subsidies to shift 125,000 acres to this new variety, which yields about 5 bushels to the acre more than do the native types. Cotton production and yield have also been increased through the introduction of new varieties and practices, and subsidies were paid to farmers to encourage them to expand their acreage and comply with government recommendations. In 1941, 11½ million yen were set aside to expand further cotton production.

Tobacco was made a government monopoly in 1921, and both variety and acreage were placed under official control; prices are fixed, and a compensation payment is made if crops fail. In this way direct control replaced persuasion and subsidies. Similarly for sericulture, direct control was used to force the Koreans to use only disease-free and improved strains of silkworms. At the same time training schools and classes in sericulture for girls and women were developed. Forestry has received a great deal of attention, and reforestation of denuded hills has been very extensive; cutting is rigorously controlled by permits, even in remote districts, and for each tree cut new ones have to be planted.

The major emphasis of governmental activities has been placed on the commercial crops needed by Japan; in addition to the foregoing, however, a great deal of progress has been made in fruit growing and improved livestock production. Little has been done in the field of home economics, but epidemic diseases have been controlled, fly-killing

campaigns initiated, the digging of sanitary wells and construction of curbs encouraged, and semiannual house cleanings advocated.

3. *Missionary activities.*—Apples and other Temperate Zone fruits were first introduced into Korea by missionaries, and fruit production has expanded rapidly. The quantity of apples produced increased from $1\frac{1}{3}$ to 4 million bushels between 1930 and 1940. Missionaries have also introduced improved varieties of corn, vegetables, and potatoes with much success. In addition, an agricultural college has been established, and a popular farm magazine and simple pamphlets on agriculture have been published in native script. Extension work has largely been carried on through farm institutes or short courses from 4 to 10 days in length, where specialists in several fields have lectured and given demonstrations. Up to 1934, well over 100,000 Koreans had attended one or more of these institutes and studied such topics as rice culture, poultry raising, legume production and green manures, fruit growing, and hog breeding. More permanent self-supporting farm schools patterned after the Danish folk high schools were also developed in several missionary centers to train boys and youths expecting to return to the farm. One of the most important contributions of the missionaries lay in breaking down the antagonism of the Koreans to accepting suggestions offered by the Japanese Government. In many cases the local government specialists cooperated in the institutes and schools by teaching special topics such as rice production and the use of commercial fertilizers.

4. *Private agencies.*—Private corporations and individuals have also done much to change and improve the agriculture of Korea. A corn-products company imported 6,000 bushels of seed corn from the United States and distributed this in various sections. The six varieties and the areas best suited to their growth were selected by an agricultural missionary who also prepared a pamphlet giving instructions on growing the crop, of which 50,000 copies were distributed. Commercial fertilizer companies have also done much to expand the sale of their products, as have the companies selling the small-scale farm machinery adapted to Korean needs. Although there were some failures, such as the attempt by a sugar company to grow sugar beets, the results on the whole have been beneficial.

Many individual Koreans have spent both time and money in teaching their people better methods of production. This has been particularly true of apple growers and vegetable producers, because apple growing was rapidly taken up by the Japanese and vegetable growing was being concentrated in the hands of the Chinese. The basic stimulus was a desire to train their own people to be efficient producers in these fields. These Korean leaders assisted in many of the missionary schools and also visited nearby communities to lecture and demonstrate improved techniques of production.

Guideposts to Extension Work in Korea

1. *Relationship to the past system.*—The extension system as it has been developed in the past has achieved much, and the good aspects of the present system should be retained. However, the major weaknesses of the present governmental system are, that—

a. It is too narrow in scope and has emphasized the commercial crops to the exclusion of other needs.

b. The development of people has not been considered important.

c. It has been too autocratic in that specialists have relied on telling farmers what to do rather than on working with them on a more democratic basis.

2. *Relationship to other programs.*—The success of any extension system in raising the people's level of living will, in the long run, be contingent upon other actions directed at solving some of the most basic problems of agriculture. These include:

- a. Land-tenure reform.
- b. Reduction of indebtedness and an adequate system of agricultural credit particularly for cooperative enterprises.
- c. A reduction of the increasing pressure of population on land resources through industrialization and reduction in the birth rate.
- d. An expanded national health program.
- e. An expansion of general education to eliminate illiteracy, with an increase in the number of agricultural high schools and industrial high schools to train young people to move into other occupations or to be better farmers.
- f. The democratization of the county system of government with a council and officers elected by the people and retention of part of the land tax under their control for improved extension activities.
- g. An expansion of agricultural research facilities to make more adequate information available.

At the same time, a well-developed extension service can do much to implement other national policies directed at meeting some of the most fundamental needs of the economy as a whole.

3. *Guideposts to action.*—An improved and expanded extension service should make more use of the following techniques and procedures:

- a. The interests and needs of the people should be analyzed, and initial programs directed to meet these needs.
- b. The use of local leadership should be stressed, but the dangers of a small group's accepting responsibility for making all decisions should be avoided. In other words, a wide basis of participation is needed in conjunction with the use of local leaders.
- c. Existing rural organizations which, in Korea, include church organizations, agricultural associations, and schools should be used more extensively for agricultural extension work.
- d. Joint programs that will meet the needs of the farm family as a whole are needed. In the past, extension activities ignored women almost entirely, and remedying this neglect is essential.
- e. In printed material, demonstrations, and lectures, the experiences of farmers in adopting new techniques should be stressed.

4. *Guideposts to program.*—Among the most urgent needs in Korea are increased food and income. The extension program, therefore, should attempt to meet these needs first; other needs are important, however, and the program should be expanded as rapidly as possible to meet them. In a rough order of importance the following elements are suggested. Many of these might be incorporated in a comprehensive program for a whole community.

- a. Agricultural production.
 - (1) Improved varieties of crops and livestock.
 - (2) Improved culture methods.
 - (3) Expanded use of fertilizers and manures, including compost.
 - (4) Better land use and conservation.
 - (5) Cooperative associations for loans, marketing, production, and purchasing.
 - (6) Increased use of improved agricultural implements and small machines.
- b. Improved nutrition.
 - (1) Increased production and retention of food on the farm for family consumption.

- (2) Improved production of more food products for family use.
- c. Reduction of illiteracy.
 - (1) Use of native script.
 - (2) Special emphasis on reading and writing for women.
 - (3) Publication of reading material in native script.
- d. Health and hygiene.
 - (1) Pure water supply.
 - (2) Control over infectious diseases.
 - (3) Screening of houses.
 - (4) Means of controlling the size of the family.
- e. Improved social and community life.
- f. Restoration of handicrafts and small-scale industries.

Japan

A relatively small amount of information is available with respect to the extension organization and program current in Japan before the war. The following statements, though not complete, give information on certain aspects of this question.

Principal Features of Japanese Agriculture

Agriculture is the backbone of Japan's economic life. The unprecedented progress of industrialization in Japan before the war has tended to obscure this fact. In reality, however, the importance of agriculture in modern Japan is still great. The rural population constitutes approximately 40 percent of the total (13.6 million households). Her agriculture before the war continued to provide most of the nation's food; in terms of capital invested and net value of output, agriculture in the early 1930's was the country's leading industry.

The agricultural structure of Japan rests upon not more than 15 million acres of cultivated land owned or worked by 5.5 million farm households. This constitutes one of the principal features of Japan's agricultural economy—the cultivated land is scarce in relation to the farm population. With so many people on so little land the size of farm units in Japan is very small, averaging 2.7 acres. As to the size of holdings actually cultivated, only 9 percent cultivate more than 5 acres, while 34 percent of all households cultivate less than 1.2 acres each. On the whole, the vast majority of Japanese farmers work on small plots that often resemble gardens rather than fields.

Japan has few large landed properties; yet there is a striking concentration of land ownership there: 50 percent of all the farm households own only 9 percent of all land, while 7.5 percent of the households own 50 percent of the land. The corollary of this is seen in the inequality of landownership. Only 31 percent of all the farmers own the land they cultivate, 42 percent are part owners and part tenants, and 27 percent own no land at all. Over 50 percent of all the irrigated lands are cultivated by tenants and part tenants. With so much land worked by tenants, absentee ownership in Japan is very great.

With many people on little land, the fields of Japan are cultivated intensively. They are treated much more carefully than many a garden in the West. Although the Japanese are handicapped by a naturally infertile soil in many districts, they obtain high yields per acre. Rice yields increased from an annual average of 1,512 pounds of brown rice (43 bushels in terms of rough rice) per acre to 2,616 pounds (75 bushels rough) in 1935-39, or 73 percent. A comparison

of the average Japanese yields with those of such typically rice-producing countries as Burma, Thailand, French Indo-China, India, Java, and the Philippines, shows that they are roughly from two to three times as large as those in any of the other countries mentioned. To a large extent this is true of wheat yields and of a few other crops.

Such marked achievement has been rendered possible through intensive application of labor, through careful cultivation, constant weeding, and painstaking watering of crops where irrigation is needed. But one of the principal means of increasing yields is the liberal use of fertilizers. In addition to human excrement, commercial organic and farm-supplied fertilizers, the Japanese farmers have come to apply large quantities of chemical fertilizers, particularly of ammonium sulphate and superphosphate. In 1938 each acre harvested was estimated to have received 82 pounds of nitrogen, 46 pounds of phosphoric acid, and 49 pounds of potash.

The intensive work performed on Japanese farms, from planting to harvesting, is carried on almost exclusively by hand. With some minor exceptions motor-driven machines are scarcely ever used in seeding, fertilizing, and harvesting, although animal labor often is used in plowing. To assume, however, that mechanization is a totally unknown quantity would be erroneous. Between 1927 and 1937 the number of electric motors and gasoline engines of low horsepower on farms increased from 52,000 to 188,000. This number is augmented by 59,000 motors and engines rented to farmers by private business organizations. With the exception of pumps, the machines are employed expressly for the processing of products on the farm.

One striking feature of Japanese agriculture is that it is hardly ever associated with animal husbandry. Except for Hokkaido, farming is limited to the cultivation of the soil for the produce derived directly from it. Lack of good natural pasture land, limited market for animal products, and the aim to get a larger food value from a limited acreage stand in the way of the development of livestock industry.

The relatively small acreage under cultivation, large farm population, small farm units, and widespread tenancy all point to the fact that Japanese agriculture is not in a sound state. In recent years it has not been able to provide the basic needs of a great number of its farmers. Yet, notwithstanding the low standard of living of the mass of Japanese farmers, the unrelenting official efforts toward food self-sufficiency has resulted in the expansion of the crop acreage and in a proportionately larger increase in output.

Agricultural Education and Extension Work

Numerous factors are responsible for the agricultural pattern. To cite but two: There is, on the one hand, the tenacity of the Japanese farmers, who tend their fields with the skill of experienced gardeners; on the other, the lack of alternative occupations that binds the Japanese farmer to the soil and compels him to extract from it a maximum return. Yet perhaps no single factor has been so fruitful in placing Japanese agriculture on a scientific basis, and in raising the productivity per unit of farm labor and unit of land as agricultural education, so widespread in Japan.

1. *Agricultural education in Japan*, as a state policy, was started in 1883. In accordance with the principles then enunciated, schools

giving agricultural education were divided into three categories, those for—

- a. Elementary education, made up of agricultural courses included in the compulsory curriculum of more than 12,000 schools.
- b. Secondary education, consisting of higher agricultural schools, as well as special courses in agriculture given in a number of universities.
- c. University education, which refers to agricultural faculties in a number of universities, and particularly to agricultural colleges.

The higher agricultural training is concentrated in the following six institutions: Kyoto Imperial University; the Miye Imperial College of Agriculture and Forestry; Kagoshima Imperial College of Agriculture and Forestry; Morioka Imperial College of Agriculture and Forestry; Institute of Agricultural Chemistry, Faculty of Agriculture, Kyushu Imperial University, and Utsunomiya Agricultural College.

As an example of some of the functions carried on in the higher schools of agricultural training, the agricultural department of the University of Kyoto may be cited. The department is divided into six institutes: Agricultural, forestry, agricultural and forestal chemistry, agricultural and forestal biology, rural and forestal engineering, and institute of agricultural and forestal economics. The university has 250,000 acres of forest, as well as three farms for experimental purposes. The teaching staff includes 23 professors, 17 assistants professors, and 26 lecturers.

From the point of view of spreading practical agricultural knowledge among the farmers, the work of the experiment stations deserves special mention. Every prefecture of Japan, of which there are 47, has an experiment station; also local stations in various parts of the country are numerous. The work of one of the prefectural stations (Tokyo) is typical. It is divided into six branches: Plant industry, agricultural chemistry, entomology, vegetable pathology, and soils. There also are stations dealing with one or more special crops, such as mulberries or tea.

The prefectural stations also train expert technicians. Graduate students from higher vocational schools are accepted for this training; the courses last 2 years and are essentially practical in character. The program of study is a comprehensive one, since the expert technicians are expected to deal with all matters concerning fertilizers, agricultural machinery, insecticides, and other subjects relating to plant growth.

2. *The local authorities carry on extension work* through the local agricultural experiment stations, which are founded by the prefectures or smaller administrative units. Their work includes:

- a. Experiments and investigations relative to the improvement and increase of agricultural production.
- b. Dissemination of results of experiments.
- c. Practical demonstrations on model fields.
- d. Popular lectures, courses of instruction, and answers to inquiries concerning farm problems.
- e. Distribution of seeds and plants, poultry and cattle, silkworm eggs, and the like.
- f. Examination and analyses of soils, seeds, fertilizers, tools, machines, and agricultural products.

3. *In addition to the extension work* of the stations, the agricultural associations of Japan, founded for the purpose of developing and encouraging agriculture, conduct extension work to some extent. Their activity includes:

a. The encouragement and improvement of general agriculture by aiding cereal production, stock-raising, sericulture, and horticulture. To this end technical specialists are employed to carry on investigations of all kinds, and to give practical courses and popular lectures.

b. They also act as intermediary agents in the cooperative buying of articles necessary in farming, the cooperative selling of farm products, the managing of agricultural warehouses, the finding of markets for farm products, and the promotion of friendlier relations between landlords and tenants.

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Southeastern Asia, Malaysia and Other Pacific Island Groups

The Region and Its Culture

THE COUNTRIES represented by the Committee to study southeastern Asia were Burma, Thailand (Siam), Malay States, British Borneo, Netherlands East Indies, the Philippine Islands, and Guam. These constitute an exceedingly large area, amounting to more than 1,750,000 square miles, with a population in excess of 130 million people. The distance from the most easterly of the countries to the most westerly is in excess of 4,000 miles. From north to south, the area covers more than 3,000 miles. For an area as vast and composed of such diverse elements, any adequate description would require volumes. It was not the thought of the Committee to undertake a comprehensive survey, or even to supplement the discussion by library research, but rather to report the essential features that have appeared as significant in the opinion of certain persons, all of whom have had more or less personal experience in one or more of the regions named. Occasional reference has been made to other Pacific areas that have come to the knowledge of members of the group.

*Comparative populations and areas of principal countries considered in
this report¹*

| Country | Population in thousands, and year | Area in square miles | Density per square mile |
|------------------------------|--------------------------------------|-------------------------|----------------------------|
| Burma----- | 14,667 (1931) | 262,732 | 57 |
| Thailand----- | 14,465 (1937) | 200,000 | 72 |
| French Indo-China----- | 23,030 (1936) | 285,800 | 81 |
| British Malaya----- | 5,174 (1937-38) | 51,200 | 100 |
| Netherlands East Indies----- | 70,476 (1940) | 753,267 | 94 |
| Java and Madoera----- | 48,416 (1940) | 51,035 | 948 |
| Outer provinces----- | 22,060 (1940) | 702,232 | 30 |
| Philippine Islands----- | 16,000 (1939) | 114,000 | 140 |

¹ See CRESSEY, G. B. *ASIA'S LAND AND PEOPLES: A GEOGRAPHY OF ONE-THIRD THE EARTH AND TWO-THIRDS ITS PEOPLES*. 608 pp., illus. New York. 1944.

As might be expected, cultural and social conditions are exceedingly varied. The people are of different races and speak more than 100 different languages. The climate is relatively uniform. It is tropical throughout practically the whole region, although certain countries do extend slightly beyond the Tropics. Most of the region is within what would be called the wet Tropics. The stages of civilization of the different peoples range all the way from the most primitive to the relatively advanced.

The dominant religion of Burma and Thailand is Buddhism. The Mohammedan religion prevails throughout the Malay Peninsula and Archipelago and in sections of the South Philippines, where the Moros constitute 4 percent of the total population. Christianity is the religion of the Philippines, Marianas Islands, and limited areas elsewhere. Pagan tribes are to be found in all areas, and animism still underlies much of religion everywhere.

Throughout the whole region, farmers make up the greater part of the population. Small farms are found on most of the islands. Agriculture is the predominant activity, and most of the population is engaged in agriculture or fishing. The people usually have the opportunity to hold their own land.

Probably a great deal more than one-half of these people have a diet in which rice is of basic importance. They grow the same basic fruits and vegetables. Generally, there are fruit trees about the houses. The plantain and banana are widespread and the most universally used of the fruits. Coconut trees grow throughout the Pacific islands and to some extent on the mainland. In many of the smaller islands, the coconut is the major crop and settlement is around the coconut groves. Coconuts are also cultivated farther inland, but the fringing of coconut groves along the coast is characteristic of many of the islands. Copra, one of the products of coconut, is the cash product of all this area and is especially grown by small farmers. Root crops—sweet-potatoes, taro, cassava—are of secondary but considerable importance in all the countries concerned. When food is scarce they are often relied upon as the major source of supply.

Fish is an important element of the diet. Regions that grow wet rice depend upon the carabao, or water buffalo, as the principal work animal. Many and perhaps all of the areas have domestic fowl, and where there is pasturage, horses and cattle are often found. Swine are abundant in most areas where the Mohammedan religion does not prevail.

Sugar is an important export of Java and the Philippines. Sixty percent of the world's supply of rubber comes from the Malay Peninsula and Netherlands East Indies. Up to 1920, corporations handled most of the rubber production, but, by 1941, 50 percent of the rubber grown was from small holdings. Tobacco of a fine quality is exported from the northern Philippines and Sumatra. A coarser grade is raised in many places throughout the region, but mostly for local use. The Philippines has almost a natural monopoly of Manila hemp, a product of the abacá plant (*Musa textilis*).

The typical community may be a market town, a tribal unit, a social unit, or a village. Throughout the greater part of the region, inheritance is through the male line, but in parts of Sumatra, the Malay Peninsula, and Borneo, inheritance is through the female line. Customs and traditions depend to a large extent on the prevailing religion. An example is the Mohammedan prejudice against pork. A considerable mixture of cultures exists as a result of interisland migration. Some areas, as the Philippines, have been westernized to a considerable degree. The tendency of modern civilization to reduce the strength of tribal units has made for greater national unity. The people of this region are generally inclined to be democratic. In all Malay countries, also in the Philippines, the status of women is relatively high. In Burma, women likewise play an important role.

Throughout the wet Tropics the predominant practice is to build houses so that the living quarters will be above ground level to avoid excessive moisture.

In such tropical and subtropical regions, infectious diseases—malaria, dysentery, leprosy, and parasitic infections—are prevalent in contrast to the predominant nervous and organic diseases that characterize the Temperate Zones. Tuberculosis, especially of the lungs, is a universal plague.

The tools used by ordinary farmers are few and primitive, although on the whole native tools have been adequate for their purpose. No marked prejudice to new crops is evident, but where transportation is difficult and markets are uncertain, introduction of new products may proceed slowly. Seeds are gathered locally for the regular crops. In some of the large plantations, the owner sends employees to different countries to bring back new plants and new seeds. These, in turn, are passed on to the workers. Irrigation has been introduced to take care of the dry seasons, particularly in the growing of rice.

The Chinese businessman has spread over southeastern Asia, almost to the borders of India. In many localities, he holds a prominent place in retail trade, local finance, and the marketing of farm produce.

Outside Forces That Were Changing the Rural Way of Life Before the Second World War

The Penetration of Western Civilization

A few years ago an exploring expedition reported that in the remote forests of a Pacific island a tribe had been found completely untouched by outside influences. The find was indeed a rare one, perhaps the last in history. For better or worse, there presses upon all peoples everywhere, whether they are primitive mountain tribes or of highly developed indigenous cultures, that all-pervading civilization which

bears the stamp of the industrial West. Traders reach out into remote nooks for raw materials such as copra. In return, local handicrafts are supplanted by factory products and life is made more varied, if not richer, by the products of modern industry. Shipping, roads, and planes do away with the limitations of distance that lie so heavily upon the unaided human being. New institutions appear—schools, modern government, churches, cooperative societies. The “unorganized organization” of the tribal elders is pushed aside by bright young men who call meetings, keep minutes, read from rule books, and give orders based on outside authority.

The new order is secularized in the sense that it breaks the traditional unity of religion with everyday life. The West carries a Christian and scientific interpretation of the universe which abolishes the ancient fear of natural forces. Sorcery, witchcraft, and superstition fall into disrepute. Men are free to do things they had never dreamed possible. Science and technology promise to supply the tools. Human personality is given new consideration. Representatives of the Christian churches appear as missionaries to teach and serve. Governments acquire a new interest in human welfare. As communications become easier new diseases enter the neighborhoods, but modern medicine promises an altogether higher level of healthful living. Without some special organization, however, doctors and hospitals pile up in urban centers and rural districts are neglected. Money is one of the new perplexing problems for the farmer. Unaided, he invariably loses in the struggle with trader and money lender.

Here cooperative credit societies have a promising record of accomplishment, but all experience seems to indicate that if they are to be permanently successful outside aid, encouragement, and technical supervision must be given, at least in their initial stages. In the present state of rural demoralization and discouragement, little effective local leadership has emerged. There is every reason to think, however, that such leadership is potentially available. Where schools have gone into rural areas they tend to draw out the brighter students from upper-class homes and channel them toward city or government positions. Special adaptation of the educational program is essential if the local community is not to suffer.

To summarize: Change is inevitable in the scattered areas of the Pacific, as in all other parts of this planet. These changes pose new and pressing problems for the farmer and the rural community. The new resources of science, education, and organization needed to meet these problems are available to a considerable degree, but the country dweller is unlikely to find them unaided. Governments and private agencies have a clear responsibility to give special attention to a program for rural reconstruction. As local problems are approached, fascinating areas of investigation and experimentation emerge. A research program becomes essential, not only for applying scientific remedies to local needs, but for finding and preserving lessons that native cultures may have for all mankind.

A new world culture seems to be in the making. From the standpoint of human welfare there are two essential points: (1) The benefits of this culture should be extended to all, and special advantages should not be given to any group. (2) Local cultures should be studied and an earnest attempt made to preserve their elements of spiritual, social, and economic value.

Possible Effects of the Japanese Occupation

Without some recognition of the far-reaching effects of war and invasion, our whole discussion bears the stamp of unreality, but the dearth of information rules out any authoritative statement. On the basis of what we know of the peoples in the area and the general pattern of Japanese conquest certain general predictions can be made.

Military destruction has taken place to a limited degree from invasion operations and some demolitions. Where there has been prolonged resistance, scorched-earth policies may have been put into effect. The process will be repeated in reverse order with reoccupation. Interisland shipping has practically disappeared except for that done by sailboat. More important than actual destruction has been the agony and demoralization resulting from invasion. Valuable products and profits have been drained away by the conqueror. Forced labor and military service are reported. The area is flooded with military notes. Food production on a subsistence basis may have increased, but lack of transportation and local disorder have doubtless caused losses. Reports indicate food scarcity in many areas. Clothing, tools, and household articles are being used up.

The Japanese record as regards treatment of women seems to have been better in this area than in China. Nor has there been evidence of the opium or drug traffic. The Japanese have set up a steady barrage of propaganda for "greater East Asia," "the new world order," and "co-prosperity." They have had a few sincere converts; others join to further nationalistic ends of their own. The most degraded product of a military invasion is the collaborator, who aids the invader for his own personal advancement. Resistance seems to spring from the common people with stirring examples from other groups. It is likely that allied soldiers will be hailed as liberators. There will probably be in the future both a new desire for nationalism and a new willingness for international cooperation.

Western prestige, as such, may have been dealt a death blow. On the other hand, the westerner who is prepared to be judged on his own merits may be more welcomed than ever. Among the educated classes we may expect a permanent interest, theoretically at least, in regional unity and oriental culture. Along with this there will be a new appreciation of the principles of freedom and democracy. Finally, recognition should be given to the effects of allied military operations. Transportation systems have been set up. Valuable information about the areas has been collected. New ways have been developed to meet the challenge of tropical living. Masses of soldiers of many nationalities will have had intimate acquaintance with the peoples of Asia.

Prewar Scientific and Educational Institutions of Interest for Agriculture and Rural Life

Before proceeding to a consideration of possible measures for rehabilitation and agricultural improvement in these areas in the post-war world it is essential to know what agencies were functioning in these fields up to 1941.

An outstanding characteristic of this whole large area was variety of political and social organization. There was no common center for scientific research or for professional development. The Philip-

pires, for example, looked to the United States, Netherlands East Indies to Holland, Burma and Malaya to England, and French Indo-China to France. Although these political connections carried with them a wealth of educational possibilities, they also made for a great variety of programs, all of which unfortunately drew much of their inspiration from temperate-zone rather than tropical agriculture. In the following brief survey, mention is made only of those institutions and programs of significance for agricultural extension as they have appeared in the discussions of this particular Committee. Little recourse has been had to literature. That important regions and institutions will have escaped attention is therefore inevitable. In certain instances members of the Committee have supplied written reports, and these have been drawn upon for extended treatment of particular projects or areas.

Burma

A good system of government schools and medical work is reported in Burma. Special mention has been made of village youth movements and cooperative societies.

Special interest attaches itself to the American Baptist Mission Agricultural School at Pyinmana, whose principal met his death while carrying on agricultural work with the American forces under Gen. Joseph W. Stilwell. The following description of the extension work of this school has been furnished by a member of the discussion group:

The school was opened in June 1923, and continued until the outbreak of war, even serving during the war to supply food to the Chinese Army.

The demonstration farm included 140 acres devoted to field crops; 7, to fruit orchards; and 14, to vegetable gardens. A certain amount of experimental work was done, particularly with regard to the costs and profit of various beans, maize, and other alternatives to rice. However, the principal and his colleagues utilized the results of government experimental farms to a much greater extent, and depended upon them for accurate data on comparisons of varieties and cultural methods. The school not only maintained a close liaison with the Department of Agriculture, Burma, but also interpreted to Burman students and farmers the results of a mass of experiments gleaned from the reports of experimental stations throughout the world.

1. *Stock breeding*.—The school kept 400 chickens, 100 head of cattle, and 100 pigs. The chickens and pigs were of fine breeds imported from the United States (the Berkshire pigs indirectly from England). The herds and flocks of purebred animals on the farm were kept up to a high standard, and breeding stock was constantly supplied, on sale, to villagers. Because they demonstrated their superiority over the indigenous breeds, demand for this improved breeding stock continued to increase. The Berkshire boars placed in two villages for 2 years so changed the appearance of the pigs in those villages that the small, ill-formed Karen type of pig is no longer to be seen.

2. *Vegetables and other crops*.—Burmans whose religious scruples prevented their keeping either pigs or chickens, found this school prepared to supply them with information, and sometimes with seeds for gardening. A vernacular pamphlet containing instructions for the planting and care of 37 kinds of vegetables has been printed and circulated widely.

Other crops were emphasized more than rice in the propaganda work of the school, because of the need for vegetables in a balanced diet, the need in many sections for diversification and rotation of crops, and because much land now in rice is more suitable for cash crops and other food crops. Yet the main crop of the farm as of the province was rice. Every year since the establishment of the farm the yield per acre was considerably greater than those of surrounding cultivators in the district. In the favorable year 1935, the rice crops set a new record: 65.5 acres produced 3,803 baskets, an average of 61.8 baskets to the acre. The average yield in Burma is less than 30 baskets to the acre.

3. *Agricultural extension; methods used.*—Perhaps the reason 60 percent of the graduates went to work on farms, and a total of 90 percent went into some type of rural service is, that the Pyinmana School made village improvement an interesting occupation. Every student was taken on many short observation trips to neighboring villages. Stops were made at bazaars and other places where a crowd could be collected. As entertainment features, such Burman songs as *The Golden Rose* and *The Paddy Farmer* were sung, and appropriate dances performed. Lectures were given on improved field and garden crops, improved ploughs, Plymouth Rock chickens, and malaria. Of course seeds, chickens, and cinchona febrifuge tablets, for sale to the villagers, were taken on such trips.

In 1933-34 the drama *Wealth From Waste* was presented many times. It showed the waste of organic matter in rubbish; manure; health; time; money; and human life and character, all of which might be used for the enrichment of village life. Annually, the graduating class made a tour by launch. On arrival at a village the first item on the agenda was an inspection of the agriculture of the countryside, as a demonstration to the class and as a means of finding out how to give helpful advice. During the noonday rest periods, when the villagers returned from the fields, the brass band would play, after which lectures on various subjects would be given.

Free medical treatment was given to sufferers from itch and other skin diseases, and small packets of medicine were offered for sale. Charts and demonstrations were prepared during the afternoon. The playing of the band, at dusk, would bring from 200 to 500 villagers in from surrounding creeks and fields. Disinfection of drinking water with permanganate of potash was demonstrated, and packets of this chemical were sold until the supply was exhausted. An hour's drama and sleight-of-hand performance completed the program, which usually terminated about 11 p.m.

Thailand (Siam)

Thailand, as the one politically independent nation in this region, had developed a system of central and branch agricultural experiment stations with extension agents for crop improvement. Much use has been made of technical exports from western lands. American mission organizations have maintained schools, hospitals, and work for lepers. Fortunately, an interesting and detailed description has been furnished us of village life in Thailand and of the effect of government extension programs.

1. *Social life.*—The market is the established social center in the morning, and generally buzzes with activity and gossip before the

sun is an hour high. But the market, especially in the smaller towns, is primarily a gathering place for women. During the day a gradual shift is made to the temple.

Each morning the children troop into the temple grounds to receive from the priests instruction in one of the smaller buildings, and each afternoon and evening a few of the elders and the more serious-minded adults will be found conversing and exchanging opinions in the "sala" of the temple.

The sala is almost invariably a separate building in the temple grounds, and generally the largest. Standing a little apart from the temple proper, it is a single big and open room, often without walls save at one end, and covered with an imposing roof. Here the important transactions of the town take place, and all business affecting the community as a whole is discussed. Visiting strangers, whether they be government officials, foreigners, or farmers from other districts, are greeted by the elders at the sala, and at nightfall all strangers spread their sleeping mats or hang their hammocks in the sala. Newcomers to the village, planning to live there, may sleep for weeks in the sala until their houses are built and there is no incongruity if their livestock forage meanwhile under the sala floor and in the temple grounds.

Though women and children are by no means unwelcome in the sala, and though women occasionally join in the discussions that take place there, it is essentially the meeting place for the village elders and responsible heads of families. On occasion it is the established meeting place for the entire community. A special signal on the temple drum, or the sounding of a particular drum other than that which marks the progress of the priests' daily duties and ceremonies, calls all the villagers to the sala. The Thai Government has now installed radio loudspeakers in the salas of many communities, for the sala is the place where all the people may be addressed on days of national importance, and there the elders and serious-minded farmers may be given advice on agricultural topics, livestock, public health—and, of course, politics.

Government schools, in the larger centers, provide additional training more closely patterned on occidental lines. The students become fully literate in the Lao-Thai language and are taught arithmetic and history. Further instruction, roughly equivalent to that of our high schools, is available in Bangkok and included, before the Second World War, instruction in the English language. Especially promising students are given still further training in technical subjects, and a few of the most outstanding young men are sent by the Government to universities in the Philippines, Japan, the United States, Great Britain, or continental Europe. Upon their return to Thailand these young men are almost invariably employed by the Government, and they become the technicians and administrative officials in the government ministries.

2. *Psychology*.—Like peasants elsewhere, the country folk of Thailand are highly resistant to change. The paddy is tended as it has been since days beyond memory, and the introduction of new seeds, new techniques, or new implements is regarded as a venture so hazardous that each farmer would prefer his neighbor to try it first.

The great majority are kindly and courteous with strangers as with each other, and suggestions pointed toward agricultural or community

improvements receive a friendly and attentive hearing. The extension worker deceives himself, however, if he imagines that the friendly reception accorded his advice is an important step toward actual progress. Even in his own village, the Thai who has studied in agricultural colleges abroad encounters an insurmountable barrier of passive resistance. It makes no difference that he is regarded with pride by the whole community and returns to the village as a visiting government official. Each man's rice fields are his own. He will tend them as his fathers did. His fathers felt no hunger, and neither will he or his family. To hear what other folk think about the growing of rice is interesting, but he himself will risk none of the mischances that so frequently befall those who take it upon themselves to meddle with the appointed way of doing things.

Not even government edicts, if the Government were so unwise as to make them, would effect any sweeping changes in agricultural methods or rural conditions.

3. *The Government's attitude.*—The Thai Government, both before and after the adoption of a constitution which changed it from rule by the royal family to rule by the elected assembly, has consistently displayed an attitude of enlightened progressivism toward rural development.

In former days those of the princes who were to hold important administrative positions were given extensive education in foreign universities. The Government provides for outstanding young men to receive technical training abroad, and many of the officials concerned with agriculture, animal husbandry, public health, fisheries, and economic welfare hold degrees from American, British, or continental universities.

Foreign experts in technical matters were employed as advisers under the monarchy, and the present Government has continued this policy. Though these foreign advisers are accorded little actual administrative responsibility, their recommendations receive serious consideration and often lead to constructive changes in official policy. Medical research by foreigners has been encouraged in Thailand. The fine work accomplished by medical missionaries long resident in the country has been welcomed, and the Government itself has energetically prosecuted measures designed to improve the public health.

4. *The cooperative societies.*—The most successful approach to the touchy problem of introducing agricultural improvements has been made by the cooperative societies. This approach, in many communities, has succeeded in counterbalancing the farmers' ingrained conservatism by arousing their self-interest.

The Government allocates funds to the cooperative movement, and maintains an administrative headquarters in Bangkok. Field supervisors and agents from the headquarters tour the agricultural areas and explain the functions of the movement to the villagers. The method of approach has been described as follows:

a. The field agent explains that in Bangkok a fund exists from which responsible farmers may borrow money at a low rate of interest for agricultural purposes. This statement invariably awakens interest, and, after the first moment of instinctive peasant disbelief, the question arises as to the manner in which these desirable loans may be obtained. What is the catch?

b. It is explained that the loans are not available to individual borrowers, but they may be made to groups of individuals who are willing to share the responsibility for their repayment. This statement commonly awakens un-

easiness, for the average farmer has a wholesome fear of money and no desire to become embroiled in his neighbors' debts. If a neighbor is and to buy a needed water buffalo with funds the Government has lent him, well, and good. If the neighbor is thrifty and diligent, perhaps the Government will some day be repaid; but to be obliged to share in the penalties that would fall on the neighbor if he failed in his commitments would be an uncomfortable situation.

c. However, the community may have suffered unusual damage from floods or the harvests been deficient for some other reason, or many of the water buffaloes may have died unaccountably. In such cases the disadvantages of sharing responsibility for a needed loan at low interest rates must be weighed against the known rapacity of the money lenders from whom private loans must otherwise be obtained. After many long and searching discussions, a few of the most responsible villagers decide to accept the unwonted hazard of sharing a financial responsibility.

d. The field agent is notified and returns to the village to accomplish the details of organizing the society. The land holdings and the livestock of the prospective members are carefully appraised, the uses to which the loan is to be put are investigated, and when all these prying and unwelcome preliminaries have been completed the Bangkok office is asked to pass on the application for a charter. If approved, the funds are made available, and the cooperative society begins its existence.

e. Like farmers everywhere, the Thai rice grower takes a keen interest in his neighbor's fields, and spends many hours contemplating them and mentally comparing their probable yield with his own. Now that he shares a responsibility for his neighbor's debt, however, his interest has quickened to real solicitude. He no longer hides a smile when he hears that his neighbor's buffalo has strayed; on the contrary, he hastens to help round it up, and when it is brought safely home he gives freely of his advice as to how buffaloes may be tethered most securely.

f. In a short time the small society acquires a sort of corporate psychology which differs in many important respects from that of the community as a whole.

The community is charitable and will suffer no unfortunate to starve, but it recognizes as inviolable the tie that binds a man to his own rice fields. No man's rights in his own fields may be disputed. For men of wisdom to give advice to those whose crops fail to prosper is proper and charitable, but each farmer must decide for himself whether or not to accept the recommendations of others. If a farmer is lackadaisical or persists in ill-considered ventures, he and his family will pay the price. Coercion is not to be thought of. For even the most well-intentioned advice to become insistent would be unseemly. "Where would any of us be, if strangers could interfere between us and our land?"

The few farmers who have joined themselves together in a cooperative society soon develop a different attitude. If one member suffers misfortune, then surely all will be called upon to pay the price. Calamity which may afflict many must be averted. United opinion is brought to bear upon the single member who fails in diligence. The social pressure becomes insistent, and he must be an outcast indeed who fails to feel it.

g. The attitude of joint responsibility, in no great space of time, leads to a frame of mind not wholly unreceptive to new ideas. The comments made by the field agent of the cooperative societies are listened to with real interest, and his recommendations continue to be discussed after he has left for the next village. "The harvest was good last year, the granaries are full of rice, and perhaps it would be worth while this year to set aside a small plot of land and plant it with the new seed recommended by the agent. Nai Sahakorn has land and to spare. If the other members will pay their shares in rice, he will let them use a corner of his best paddy field to try out the new seed. If the new seed fails, as new things usually do, no man will suffer great loss. If by chance it proves bountiful, then all will have seed from it, at no cost to themselves, for the following year."

h. The new seed is planted with the greatest care. The whole community watches its growth. Though some of the elders shake their heads, no man can deny that Nai Sahakorn is a very successful rice grower and one not readily victimized. Most of his ventures have been attended by profits. This experiment may be less foolhardy than it looks. In any case let us wait and see.

i. If the new seed proves successful, it is planted on a much larger scale the following year. The prosperity of the members of the society is regarded with envy by the other villagers and a number of them take pains to obtain some of the new seed for trial in their own fields. Nai Sahakorn's reputation as a man of sagacity is greatly enhanced, and his comembers share in the heightened respect accorded him. The field agent of the cooperative societies has a larger and more attentive audience when he comes to the village sala in the evening. After all, a man does not have to be a member of the society to benefit by the suggestions of the field agent, or by the occasional broadcasts of the Ministry of Agriculture. Let each man decide for himself. Nai Sahakorn is not the only man in the village who can recognize a good suggestion when he hears one.

5. *Self-help, with government backing.*—In 1934-35 the cooperative societies in Thailand were on a thoroughly sound basis. Policy decisions were made with wisdom by the responsible officials in Bangkok, administration was competent, and the government investment in the movement had been wholly justified.

Small nuclei of farmers in many communities had been led to follow in their own paddy fields and at their own expense, some of the recommendations that emanated from the Ministry of Agriculture with its experimental stations, technical experts, and foreign advisers. Success had attended the majority of these ventures.

It had been proved that the farmer might remain untouched by educational literature and posters, and yet respond almost with alacrity to the stimulus of successful innovations made by his neighbor in the latter's own fields. A touchstone with which to dissolve the almost impenetrable core of peasant conservatism had been found.

A measure of general receptivity to new ideas had been established in the villages where cooperative societies had been formed. Government proposals bearing on public health and animal husbandry, in addition to those bearing directly on rice, were assured at least a modicum of serious consideration.

Once again self-help, and not the government hand-out, had been proved to be the best approach to rural development.

Malay States

The inhabitants of the Malay States generally speak the Malay language and have similar customs. The religion is Mohammedan and many customs are closely associated with it. The rulers of the Malay States are Malay royalties but the administration at the request of the rulers is in the hands of British officials. Most of the states are British protectorates, although the Straits Settlements are a Crown colony.

One of the outstanding projects for the protection of the Malay farmer has been the legal safeguards that have insured him ownership of the land. Health work has stopped epidemics, reduced infant mortality, and improved sanitation. Drainage and irrigation have brought new areas into cultivation.

Through cooperative organization, an effort has been made to keep the farmer free from the clutches of the money lender. Schools have improved the general knowledge. Research work has concentrated in the agricultural-research institutions and the Rubber Research Institute. The Malayan Forest Service has maintained notably high standards.

French Indo-China

Unfortunately the large and important area of French Indo-China was not directly represented in the Committee. Mention was made of agricultural experiment stations in this area for research in plantation crops.

The literature has references to a college of agriculture at the University of Hanoi and to a school of veterinary science in the same city. A school of handicraft work is reported from Saïgon. In 1933 the Institut des Recherches Agronomiques carried on work in chemistry, botany, and entomology. Cooperative credit societies were centralized under L'Office Indochinois du Credit Agricole Mutuel. An effort was under way to affiliate agricultural marketing and cooperative production with the credit societies.

British Borneo

British Borneo consists of the countries of Sarawak, Brunei, and British North Borneo, all three of which are under British protection. Little agricultural extension work has been done in these lands. However, considerable government effort has been made to protect the farmer and make his tenure of land secure. A certain amount of work has been done in health and education, although the countries are not so advanced as some of the others considered.

Netherlands East Indies

In the absence of adequate representation of Netherlands East Indies on the Committee, the following statement has been submitted by the member whose main interest was in another area:

Netherlands East Indies is the most extensive portion of the region assigned for our study. Unfortunately, we had no one present who could speak authoritatively concerning the area. The following brief summary is the result of a number of study trips in Netherlands East Indies over a period of 25 years.

Nearly three-quarters of a million square miles that make up the land area of Netherlands East Indies are divided up into numerous islands, many of which are sparsely populated. They are governed as a Dutch colony, and the headquarters of the Government are in the island of Java. The Dutch have administered the Indies for a long time and their methods of government have changed repeatedly with a general tendency to improve conditions with each major change. Limitations of money and men resulted in concentration of effort on the island of Java which is much more highly developed than any other portion of the Archipelago. Customarily Netherlands East Indies is divided into two parts: (1) Java (and Madoera), and (2) the outer regions (Buitbesitz).

The outer areas are much less developed, although progress in certain ones has been marked in recent years. It will not be possible here to detail the work done in these outer regions, and the remainder of this comment has to do with Java alone.

Java (including Madoera) has a total population of about 39 million people, or more than 900 to the square mile, and is generally regarded as the most densely populated country in the world.

Much of the soil is very fertile, and numerous and varied crops grow luxuriantly. Much research work has been done with various crops

and in some—sugar, for example—the plantation industry has maintained excellent research institutions.

The Government early felt the need of research for the betterment of living conditions and the improvement of crops, and at an early date, an excellent research institution was established at Buitenzorg. This institution has grown, and other research institutions have been established covering various phases of agriculture. In addition, agricultural experiment stations and agricultural schools have been established at various places. A novel feature of the central institution at Buitenzorg is the foreign workers' laboratory. This was established a generation or so ago for the benefit of visiting botanists. The laboratory is well equipped and opportunities are given for qualified workers from other countries to work there at a minimum of expense. There are also provisions for special work by foreign scientists at certain places in the mountains.

Scientific work centers about the institutions at Buitenzorg and the other research centers.

An interesting crop is quinine. In Java a careful and complex system of cultivation was developed for the quinine plant and for the manufacture of the medicinal product. The extent to which this work has been successful is indicated by the fact that at the outbreak of the Second World War, Java produced 99 percent of the world's supply of quinine.

Medical research and education received a great deal of attention, and much work was done in improving sanitary conditions throughout the island in checking or preventing epidemics, and improving the health habits of the people.

Cooperative societies have been widely organized and operated on the island. One of the special features of their work has been the development of so-called produce banks, where the agriculturist brings his product and for it receives credit which can be exchanged for bank credit. The produce banks were tied up with regular banking institutions, and the whole credit organization was very beneficial to the farmer.

Other visitors to the Indies have pointed out the significant division of research work. Experiment stations supported by the industries are maintained for each of the commercial crops—sugar, tea, coffee, rubber, tobacco. The Government on the other hand carries on experimental work for the subsistence farmer in rice, fruit, fish culture, and veterinary science. Mention is also made of medical research and public-health activities.

The Philippine Islands

1. *Background.*—Notable progress has been registered in Philippine government education, and public health. In each of these fields there has been a degree of special attention to the problems of rural life, although no separate system has existed for agricultural extension.

The local unit of government in the Philippines is the "municipality," within which is the typical center of population—the town or city in United States terminology—but which also includes the surrounding barrios. Each barrio is a rural district with well-defined boundaries. Within it are one or more hamlets or settlements. A barrio "lieutenant" (teniente) is appointed by the municipal mayor. The machinery thus exists for ready dissemination of information

from the national Government through the provincial capital out to the remotest settlements. In each province reside officers of the main government agencies, who work with the local units of government. The Bureau of Plant Industry collects agricultural statistics, but also distributes improved seeds and advises on the improvement of farming. Plant nurseries are maintained for the production of plant materials. The Bureau of Animal Industry is concerned with the prevention of disease and the improvement of livestock. There is a well-trained forestry service. For some years the Bureau of Commerce gave special attention to the organization of rural credit societies and to the encouragement of indigenous business enterprises.

In the period immediately preceding the war in the Pacific, a number of new agencies had been established in line with a policy to strengthen the foundations of Filipino agriculture and industry. The cooperative organization of farmers was advocated for both credit and marketing. Aid was also offered to consumers' cooperative societies. Demonstrations were established and short courses were set up with the purpose of helping the workers to improve the basic industries. A large coconut corporation, for example, built small copra dryers, and units for the production of charcoal and creosote from coconut shells. Short courses were opened to train local people in these operations and in the manufacture of articles from the coconut fiber.

The College of Agriculture of the University of the Philippines, located at Los Banos, carried on a standard 4-year course in agricultural science, and provided personnel for government service and for the secondary schools of agriculture. By 1941 the Commonwealth Government had embarked on a program for establishing at least 10 national regional agricultural schools modeled after the famous Central Agricultural School at Munoz. There were also to be 6 national regional trade schools similar to the Philippine School of Arts and Trades in Manila. The agricultural teaching was to be closely linked with resettlement projects, to the end that the graduates might be established on their own farms. Vocational schools were to be found throughout the islands. Home economics was offered to girls in high schools. Cooking and sewing were taught to girls in the fifth and sixth grades, and gardening to both boys and girls in the elementary grades. School gardens were given special emphasis in the year immediately preceding the Second World War and made no small contribution to increased production of foodstuffs.

In practically every municipality attractive and well-equipped elementary school buildings were to be found. Simpler but adequate buildings for the lower grades were found in even remote barrios. A strong system of normal schools and departments provided trained teachers. By 1941, 45 percent of the total population of school age was estimated as being enrolled in school. Over 33 percent of the 1942 budget of the Commonwealth Government had been set aside for educational purposes.

The efficiency of the health services was dramatically shown by the decisive victory over such epidemics as plague, cholera, and smallpox; also by the general improvement in health and sanitation. These services were extended into the rural districts by a system through which nurses, midwives, and local health officers worked under a provincial supervisor. Women's clubs helped to support puericulture centers for maternal and child welfare. Medical education, including

a Graduate School of Public Health and Hygiene, was provided by the University of the Philippines.

In the mountains of central Luzon the pagan tribes are noted for a remarkable system of rice terraces which have supported an indigenous civilization for centuries. In Mindanao and Sulu are found the Mohammedan Moros with well-developed agriculture and handicrafts. All these minority groups make up less than 10 percent of the total population of the Philippines, but they are of intense interest both to the tourist and the social scientist. The official policy of the Commonwealth Government is to incorporate these peoples into the body politic without undue interference with local custom. Several special schools have been in operation in the several areas under government or private agencies, and either tribespeople or Moros are accepted in any of the public schools along with other residents.

A prewar reorganization of the curriculum reduced the period of elementary education to 6 years, thus throwing more responsibility upon the secondary schools, but rendering the extension of basic schooling to the masses easier to keep up. The proposal to establish courses in agriculture and industrial arts in all high schools was also in the experimental stage.

The suggestion has come from a member of this Committee that there be developed "community schools" as centers for agricultural improvement and rural welfare. In the more remote areas the time of a single teacher might be divided between the teaching of children, on a part-time basis, and community work. Although the individual child might not develop so rapidly on the ladder of formal schooling, such a plan would offer possibilities of continued learning in a community setting. In the larger schools a special teacher might be added for community work. The existing school plant should be utilized to the largest possible extent for the community program. This plan would capitalize on the prestige of the school and the Filipino's interest in education. Effort should be to relate the extension activities to the regular school curriculum so that both would contribute to the improvement of farms, homes, local business enterprises, and community life. Supervision would of course be necessary, but an opportunity should also be afforded to organize local people for self-help. The school would thus be a natural center where the services of provincial and national specialists could be brought to bear on community problems.

2. *Postwar problems.*—The immediate postwar period demands a harnessing of all materials and facilities that will promote the speedy rehabilitation of Philippine agriculture. The principal objectives are the restoration of food production facilities as fast as practicable and the improvement of farming methods and farm family living that will insure in the long run economic security and better standards of living on the farm. Toward the realization of these objectives, agricultural extension principles and techniques can be made to play an important part.

Farm and home extension work as carried on under the supervision of schools and government bureaus was beginning to make significant contributions to the advancement of agriculture and the betterment of community life in many areas in the Philippines before the Second World War broke out. Agricultural extension will have to carry an ever-increasing responsibility in the reconstruction and rehabilitation

of the Philippines, especially in working out a food program adequate to meet the emergency needs during the early years of liberation.

3. *Principal problems confronting agricultural extension workers.*—Numerous problems beset the path of extension workers as well as students interested in the improvement of farming and of rural community life. Most important of these appear to be low literacy among farmers and differences in languages and dialects used; widely scattered and small holdings; prevalence of tenancy; difficulties of transportation and communication; and persistent conflict between export or cash production and subsistence farming.

a. Low literacy among farmers and farm laborers.

Literacy is low in many rural areas of the Philippines, a condition preventing a more effective utilization of extension publications occasionally issued by bureaus and sections of the Department of Agriculture and Commerce. Ignorance is also buttressed by conventions and prejudices that hamper the introduction of better farming and homemaking methods and facilities. These conditions are further complicated by the fact that many languages and dialects are used in all the island groups into which the Philippines is divided. The bulletins and circulars in English would have to be translated by the extension worker into the native dialect before they can be of real use in a locality.

b. Widely scattered and small holdings.

The small size of holdings in many rural areas of the Islands is well known. Of rice farms, for instance, about 18 percent are less than a hectare, and more than 50 percent, 1 to 3 hectares; of the sugarcane farms, about 50 percent are less than 3 hectares. Corn and tobacco farms are much smaller, with nearly 90 percent of such farms under 3 hectares.

As these farms are located far outside the communities or villages in which farm families live, the actual observation of farming conditions is made practically impossible. The numerous small holdings necessitate more individual attention and their location warrants more traveling than an understaffed and poorly equipped extension service will allow. Extension of credit or other financial assistance is almost prohibitive for these small units.

c. Prevalence of tenancy.

In the prewar period, prevalence of tenancy prevented a wider dissemination of extension materials. Frequently the efforts of extension agents run counter to the wishes of land owners and rural usurers. Cooperative organizations do not thrive in high-tenancy areas.

The conditions under tenancy were becoming serious before the outbreak of war. Labor troubles and rural unrest were very noticeable in the sugarcane and rice-producing areas. The problems of crop sharing, of allowances for operating and living expenses for tenant farmers, of housing, and of small lots for vegetables and livestock were demanding equitable solutions, to which landlords in many areas were inclined to lend deaf ears.

The same situation will probably confront extension workers in the rehabilitation period. Tenancy is high in rice and sugarcane areas (38 to 59 percent) and relatively low in coconut and abaca areas (about 21 percent). A big obstacle to the promotion of increased food production will have to be overcome, particularly in the rice and corn tenancies, and even in the sugar tenancies that might produce food crops. This condition presents a real challenge to extension workers.

d. Difficulties of transportation and communication.

These difficulties are easily understood in an archipelago subdivided into over 7,000 islands. The larger islands also present the problem of poor roads to outlying districts. Agricultural supervisors have considerable difficulty in visiting extension agents in the different islands, and vice versa. And the municipal agricultural supervisors find it almost impossible to meet the farmers in the districts and barrios not provided with roads.

These difficulties, which prevent extension agents from effective working relations with outlying communities, are further aggravated by the inability of farmers to market their crops and thus obtain higher farm incomes.

e. The persistent conflict between subsistence and export agriculture.

A conflict between subsistence and export agriculture had been going on during the last 40 years before the outbreak of war. Where the plantation

system has prevailed in the Philippines, as in the sugar industry, the efforts of extension workers to promote balanced agriculture to take care of farm family subsistence needs have not met success because of the overemphasis on the production of the cash crop. On the other hand, the importance of cash-crop production for export has penetrated into the subsistence areas and has dislocated to some extent the balanced pattern of production.

To the extension worker, the existence of small subsistence agriculture with its remnants of primitive methods alongside large commercial plantations with their improved modern methods and facilities presents a puzzle and a challenge: A puzzle, because it does not seem easy to help improve the methods of subsistence farming and make family living on these farms richer and fuller without providing more than the ordinary means of extension work; a challenge, especially for plantation agriculture, because the improved and modern methods of production will have to yield not only more profits to the owners but better living standards and security for the plantation workers and laborers.

In the rehabilitation period, the problem for the extension worker lies in making the technique of plantation agriculture available to subsistence farmers and in reaping some of the fruits of subsistence farming in the plantation areas, thus assuring as nearly as possible adequate food supplies for the general population.

4. *Conditions favorable to extension work in the Philippines.*—Set against the difficulties that an extension worker normally encounters in the Philippines are certain conditions favorable to the accomplishment of his mission. These are briefly:

a. The natural hospitality of the Filipinos, especially in the outlying towns, barrios, and settlements.

b. The political awareness and love of independence of the common tao, which make him eager to adopt knowledge and methods that have worked successfully in other areas.

c. The native customs and folkways that take as matter-of-fact the community means of working together and helping one another in farm tasks and social obligations, which may be used as bases for cooperative and economic organization and operation.

d. The presence of agricultural schools²⁰ all over the Islands and of a national College of Agriculture at Los Banos. The agricultural high schools serve as the centers of dissemination for trained agricultural workers and the college as the training center for extension agents.

e. The experiment stations, breeding stations, and livestock farms²¹ under the Department of Agriculture and Commerce actually serve as the nucleus of the agricultural extension work in the Philippines. From these stations are distributed improved seeds, better livestock. These also serve as demonstration stations for better cultural methods and materials as well as experimental farms for imported varieties and breeds.

f. Organized governmental agencies such as the Bureau of Plant Industry, Bureau of Animal Industry, Bureau of Forestry, Bureau of Lands, Bureau of Science, and Fish and Game Administration provide materials and information for dissemination to farmers.

Normally, the favorable conditions just mentioned lighten the burden of extension workers and provide them some bases for setting up new programs and activities toward helping farmers and their families. Although these conditions may not prevail unimpaired after the war, they may still be relied upon to a great extent in the stupendous task of reconstruction. Some of the facilities, such as the schools and the public agencies, may be restored as speedily as possible with all available personnel.

²⁰ In 1940 there were 4 national agricultural schools, including one at the College of Agriculture, 12 agricultural high schools, and 10 rural high schools distributed over the Islands.

²¹ The Philippines had 11 agricultural experiment stations, 5 substations and seed farms, 4 reservations, 5 stock farms, and 6 breeding stations located over the Islands.

5. *The tasks that lie ahead.*—In the agricultural rehabilitation of the Philippines, the agricultural extension worker may be able to make lasting contributions to definite tasks. Paramount to the laying down of these tasks is the importance of postwar plans for relief and rehabilitation. The significance of these plans to a well-organized and effective extension program cannot be overemphasized, for little could be accomplished without the guidance and coordination that such plans will provide not only to extension workers but to the other agencies and activities concerned with rehabilitation.

Assuming that planning of relief and rehabilitation is a settled policy, we present herein the principal tasks in which Philippine extension workers will have a considerable share.

a. For short-time program :

- (1) Restoration of prewar food acreage and food-processing facilities.
- (2) Encouragement of the use of improved planting materials and better cultural methods for rice, corn, and other food crops.
- (3) Distribution and wise use of seeds, fertilizers, insecticides, and other farm relief supplies ; and the use of the high schools and experiment stations for experiment and distribution centers.
- (4) Promotion of small livestock production—hogs, goats, poultry ; start of the rehabilitation of work-animal population.
- (5) Proper utilization of farm machinery and equipment on areas critically short of work stock.
- (6) Promotion of food production and diversification in the export-agriculture areas.
- (7) Facilitation of organization and operation of marketing and transportation and farmers' associations in the liberated areas.
- (8) Improvement of fishing methods and facilities, and of fish preservation and utilization in the principal fishing areas.

b. For long-time program :

- (1) Readjustment of agricultural production toward increased self-sufficiency in basic food crops ; diversification in specialized areas.
- (2) Promotion of better and balanced diets and decent living standards for the farm population.
- (3) Restoration of the work-animal population and of breeding stock.
- (4) Improvement of marketing and distribution of agricultural commodities and of farm and home supplies needed by farmers.
- (5) Settlement of the public domain by well-qualified farm families or associations of farmers.
- (6) Rehabilitation loans for small farmers and better financing for other farmers.
- (7) Finding new and better uses for agricultural products and waste products.
- (8) Improvement of land tenure and the kasama system.

6. *Essential qualifications for extension workers.*—To assist effectively in the foregoing tasks, an agricultural extension worker in the Philippines must have at least the following qualifications :

- a. A fair knowledge of regional differences and similarities so as to appraise the needs and capacities of the men to whom he may be assigned.
- b. Knowledge of at least one native language, particularly of the province or area in which he may be asked to work.
- c. Familiarity with local customs and traditions, especially as these concern agricultural production and family living.
- d. A minimum of 2 years of college work in agriculture and actual farm experience.

New Guinea

New Guinea had no direct representation on the Committee. Discussion included reference to a description of community conversion of primitive peoples in the Huon Peninsula district. The basis for

discussion was spiritual revolution in the East.²² The German missionaries in this district spent some years studying the customs and language of the people, making their Christian message known, but not pushing for individual converts. The story is related that at a certain period, after some years of this acquaintanceship, the tribal elders themselves came to a group decision to do away with sorcery and introduce the new morality and customs based upon the command of the God about which they had been taught. The significant aspect for agricultural extension is that a whole tribe acting through its natural leaders deliberately accepted a new way of life. As a matter of fact they did not necessarily become baptized Christians. Baptism and the building of a church proceeded within the new order as set up by the tribe, which made its own interpretations of the necessary changes. The missionaries remained as advisers and teachers, but there was a high degree of local autonomy within the church. If this record is reliable it suggests that an initial period of acquaintanceship with choices put clearly before local leaders might result in group acceptances of new ways of life, thus releasing the energy of the whole community for new programs which they feel are their own from the beginning.

Fiji Islands

The Central Medical School at Suva in the Fiji Islands received mention in the Committee discussions, although information was meager. The significant contribution of this school seems to be that native islanders of the Central Pacific are trained here for practice among their own people. From western Samoa, for example, promising students from the regular schools are given a training course in a local hospital and then sent on for a 4-year course at Suva. Their preparation is aimed at standard and known treatment for the most common diseases and at general sanitary measures. The critical need for medical personnel throughout all the Pacific areas would suggest the desirability of a special study of this training program.

Guam

Guam has been for some years under the control of the United States. A description of the agricultural extension work on that island follows:

Extension work was first started in Guam in 1919 in connection with the Guam Experiment Station and in cooperation with the Department of Education of the naval government of Guam. It was organized along three lines—adult demonstration work, boys' and girls' club work, and school gardens.

Establishment and continuation of adult demonstration work was found to be much more difficult than in the United States. The average Chamorro farmer is very slow to adopt new methods. He is apparently enthusiastic about a certain thing when someone is talking to him, but forgets all about the matter as soon as the person leaves. For that reason the work required close supervision. Making use of the demonstration idea was found to be the best method. In every community certain progressive farmers were regarded as leaders. The cooperation of such men was enlisted in some form of demonstration work, because when they became interested others were apt to follow.

²² FREYSTAG, WALTER. SPIRITUAL REVOLUTION IN THE EAST. 264 pp. London. 1940. (Translated from the German by L. M. Stalker.)

An example of the use of the demonstration method is found in the change in the method of making copra. The old method was to dry the copra on the ground. This method caused much of it to become moldy and rancid, resulting in an inferior product. The experiment station had found that a superior quality of copra could be made by drying the coconut meat on bamboo racks under a roof that would protect it from the rain. At first, very few copra producers seemed willing to use this improved method, so one of the merchants was induced to try it. In a few weeks another merchant followed his example. For several months these two men were the only ones to use the new method. Later, one or two and gradually others followed their lead until eventually practically every person who made copra in the district was employing those methods.

Although the average Chamorro farmer is not particularly interested in adopting new methods in order to make more money, he does enjoy competition. Consequently a considerable part of the extension work with adults was carried on in connection with a series of fairs. These consisted of district fairs at eight villages in various parts of the island and a central Guam fair held at Agaña, the capital.

The plan of organizing district fairs was to call a meeting of all the people in the village, when the proposition of having a fair was explained to them. Later a fair committee was elected from the group. This committee consisted of a manager, a secretary, a treasurer, and one or more superintendents of each department. Most of the money for prizes was raised in the community. In the work of organizing these fairs the educational phase was kept in mind. The management was left to the people of the district, but helpful advice and suggestions were given to make the fairs educational. In this way the people learned some valuable lessons in cooperative effort and self-government as well as in producing crops and livestock of better quality.

At the central fair in Agaña, prizes were offered not only for individual exhibits but for community exhibits. The latter created much interest and served to stimulate a better community spirit among the people in each municipality or district.

School gardens were maintained in connection with each of the schools of the island. The work was conducted cooperatively by the Extension Service of the Guam Experiment Station and the Department of Education. Gardening was made a required part of the course of study in the outlying districts, and one-half day of each week was devoted to working in the garden under the direction of a teacher who handled this phase of his work under the supervision of the Extension Service. These gardens not only served to give the younger generation some valuable experience but were a means of getting new varieties introduced into communities where they had not been grown.

The boys' and girls' club work proved to be the most popular phase of extension work on the island and was the one that seemed to have the most lasting effect. The children were more eager to learn and willing to put into practice the things they learned, than were the older people.

Club work was carried on in cooperation with the schools of the island, and was made a requirement in all the schools in the outlying districts. The membership in a club was not limited to pupils, for any boy or girl under 19 years of age could become a member by enrolling and agreeing to follow instructions. Club activities included

growing corn, beans, and root crops; raising pigs and poultry; and producing copra. Boys and girls could enroll in one or more of these activities. The poultry club proved to be the most popular.

Since the island has two crop seasons, the club year was divided into two seasons, one beginning November 1, and the other March 15. For this reason twice as much work could be accomplished as in a temperate climate.

In 1922 the Federal appropriation for extension work was discontinued. Boys' and girls' club work and school gardens were then carried on by the Department of Education of the island government under the supervision of a man who had formerly been an assistant in extension work. This plan was followed until 1929, when extension work was again added to the activities of the station. The work was reorganized along the lines of the original extension plan and continued until June 30, 1932, when the appropriation for the experiment station was discontinued. The Department of Education continued to carry on the work and school-garden work until the Japanese occupation.

Plantation Agriculture

Frequent reference has been made up to this point to the existence of plantation agriculture within the areas studied. In fact a characteristic feature of this whole region is the existence side by side of subsistence farms, some of them rather primitive, along with highly developed and scientific plantations for the production of commercial crops. This does not mean a complete correlation of plantations and commercial farming. Copra, in particular, is to a large extent the product of numbers of small growers although it may also be turned out in quantity by large and specialized farms. Sugar and rubber are traditional plantation crops, although even here the small producer may exist alongside the giant plantation. This is especially the case where the plantation furnishes the processing plant for the small farmers' products. A Committee member who had spent many years in the Pacific region furnishes the following statement:

Plantation agriculture is only justified where elaborate processing and marketing facilities are imperative. There is a constant tendency for the industry to be taken over by small growers. For example, rubber plantation owners cleared the land, planted and tapped the trees and marketed their product on a large scale. Then the small farmer also started to produce rubber. His low wage scale enabled him to compete with the plantation, which survived in spite of its high overhead only by the most advanced and scientific methods.

Therefore, plantation agriculture seems to be an unstable venture except as it offers specialized processing or marketing facilities. There must be a modern sugar mill if an industry is to enter world markets, but not necessarily sugar plantations. Subsistence farmers can often produce cane more cheaply with their own and their family labor than the plantation can with hired hands. In Hawaii the plantations have developed elaborate techniques for improving production and so have established themselves firmly.

The comment was made that in Hawaii emphasis has been upon welfare projects for plantation labor rather than upon landownership by the small farmer. From the standpoint of human welfare, the plantation system puts a special responsibility on the owner or manager for the care of labor. Fortunately the system of immigrant labor is falling into disrepute. It is hoped that international legis-

lation can be invoked against any practice of indentured labor that separates families for long periods of time. At its best, the plantation system offers facilities for (1) local experimentation and for dissemination of improved seeds or animals, implements and practices; (2) welfare programs for the benefit of the employed laborers, preferably in communities where they live with their families.

Industrialization

More machinery may mean more yield per man, but may result in less yield per acre. The argument is sometimes presented that the released farmers can go to work for factories and produce goods, but who wants to see in the Orient more Shanghais and more Bombays? The answer should be rather for the decentralization of industry into simple local units, perhaps organized on the cooperative basis. The farmer needs simple improvements in hand tools. A sound local industry needs simple machines for small factories. Consumers' goods now found in oriental markets are already in excess of the means of the small subsistence farmer. He has not enough money to buy either machinery or other goods.

The foregoing statement is a fair representation of the feeling toward the problem of industrialization on the part of those who have had most experience with the oriental farmer. The agricultural extension worker will inevitably meet this problem and often find the improvement of local farming closely related to a sound development of village or home industries.

Land Settlement and Colonization

An example may be drawn from the discussion of the Philippines: In his recent study²³ of the Philippines, Prof. Joseph R. Hayden offers two statements which may well stand in contrast.

1. "Of nearly 18,600,000 hectares of potentially agricultural land only about 4,260,000 hectares were under cultivation in 1937."

2. "... less than 40 percent of the 3,143,886 families comprising the Philippine population own both house and land."

In some of the richer farming regions the occupied land is owned by 10 percent of the total number of families. The problem of bringing together landless men and uncultivated land is not so simple as it sounds, although it represents one of the most challenging aspects of Philippine agriculture.

The great island of Mindanao, in particular, is to the Filipino what the western prairie was to our own American ancestors. To facilitate the opening of new lands, the Commonwealth Government has created the National Land Settlement Administration with a capital stock of 20,000,000 pesos.

The extension of highways has been in itself a potent agency for land settlement, but anyone who has viewed the replacement of forests by blackened "Kaingins" on almost perpendicular slopes, or the desecration of such natural beauty spots as the Maria Christina Falls in northern Mindanao, will realize that land-hunger needs to be controlled by a national policy of utilization of natural resources for the

²³ HAYDEN, J. R. THE PHILIPPINES, A STUDY IN NATIONAL DEVELOPMENT. 984 pp., illus. New York. 1942. (See pp. 7, 25.)

best interests of the whole population. It is probable that the best use of much of the mountain land, especially in the higher-rain forests, would be for timber and other forest products. Without transportation, however, timber goes to waste. When lands are opened to cultivation in the upland regions, the system of farming may need to be quite different from that practiced in coastal areas from which many of the settlers may come. Ideally, there should be a center for local experimentation and education of farmers in each new settlement. Any program for agricultural extension in the Philippines will find a special challenge in the opportunity to work with pioneers.

A member of the Committee commented that elaborate colonization projects are probably unnecessary in any part of the world. If land titles, roads, police protection, and basic health facilities are provided by the government, people on their own initiative will settle on any usable land when given an opportunity.

Suggestions as to Immediate Needed Action When the War Ends

Emergency Items To Be Undertaken at the Earliest Opportunity

1. Fundamental principles:

- a. Furnish outside aid in the form of technical assistance rather than large quantities of supplies. Local resources are available in all these areas if found and organized.
- b. Make use of local products. Often there is a good basic diet—rice and fish, for example—which needs only slight supplement.
- c. Soybeans and other legumes should be given special consideration.
- d. Growing green vegetables should be stressed especially at the beginning.
- e. Due recognition should be given to the differences between deficit and surplus areas. Special attention should be given to areas capable of high production through improved methods.

2. Recommendations:

- a. The setting up of an agency in the area to determine needs and assemble information as to seeds, animals, remedies.
- b. Reestablishment and improvement of the transportation system of the area.
- c. Devising of practical plan for replacing work animals; breeding stock, with special attention to building up poultry flocks as an emergency relief enterprise.
- d. Encouraging the growing of quick-maturing food crops that are indigenous to the area with whose culture the farmers are already familiar.

The Initiation of Long-Term Programs Which Are Immediately Useful

1. The agricultural schools that were functioning successfully before the war should be expanded, and provision should be made for carrying on research in agriculture; and for homemaking, health and sanitation, with reference to rural life.

2. Each government should have a central research organization to determine the fertility and needs of the soil, the food value of local products, the dietary needs of the population, and in general to carry on the study of the peculiar problems of agriculture and rural life within the national boundaries.

3. An agricultural extension service located close to the people should be in each area.

4. Provision should be made in each area for the reestablishment and expansion of the work of private agencies that have made effective contributions for the betterment of rural life.

5. As a center for promoting and correlating scientific efforts throughout the whole of southeastern Asia, the Committee recommends that serious consideration be given to the establishment of an international research institute located at some convenient point in the Pacific area, preferably when local facilities are already available. This institute should be under an international board of control to which all interested governments would contribute. Its function would be to study the peculiar problems of tropical agriculture and the betterment of rural life in the Pacific area.

6. In view of the peculiar place which cooperative corporations hold for rural welfare, the Committee recommends that a thorough study be made of the experience to date in rural cooperatives and that recommendations be made for future development. The discussions of this Conference would indicate that the greatest success has been in the field of rural credit. There is great interest in the encouragement of many other forms of cooperative community enterprises.

7. A survey should be made of available fertilizer resources for the whole region.

8. Stabilize food production by improved methods of storage and processing. In a tropical climate stored food rapidly deteriorates unless it has special protection. This is partially responsible for gluts on the market at harvest time and subsequent scarcity. Credit facilities for the producer are an essential part of the program of stabilization.

9. Recognizing the significant place of the plantation system throughout the Pacific islands and in Malaya, the Committee calls attention to the importance of provisions for the welfare of plantation labor, and the possible function of plantations as centers for demonstration and dissemination of new ideas.

10. Specialized rural-health training should be developed.

Suggested Principles, or Guideposts, for Carrying on Extension Work

Study the cultural and economic background of the people to be served. In all regions, it is important for an extension worker to recognize the local unit of society and to utilize the best type of existing community leadership as far as this is possible. At the same time, provision must be made in any continuing program for the constant training and retraining of leadership. Those chosen should be the natural leaders acceptable to the community, not necessarily those who first put themselves forward.

The program should be a comprehensive one of which agriculture is a part.

Use self-help technique whenever feasible with locally available materials and tools. Great improvements can be made by relatively simple and inexpensive means. Encourage people to do things within their ability to help themselves. Develop simple organization to this end. (Carrying out such a method necessarily involves intimate contact with people usually from the standpoint of one whom they know as a friend, preferably one living in their midst.)

Adapt the subject matter and the teaching procedure to the educational level of the people whose behavior it is desired to change.

Emphasize teaching through demonstrations, such demonstrations to be established by rural people themselves on their own farms or in their own homes which will thus serve as teaching centers.

Carry on education work with adults at the same time that boys and girls are receiving instruction in schools. This is essential to insure an effective educational program. The content of both programs should be similar, even though details and methods may differ.

Use a variety of channels through which to disseminate improved practices in agriculture and homemaking, emphasizing such mediums as the drama, leaflets, slidefilms, posters, and life-size models where possible.

No program should be based upon extensive use of imported machinery or mechanical means.

Personnel for the program just described should be carefully chosen. They should possess a desire to serve, be able to get along well with people, especially rural people, be sympathetic in their attitude and familiar with the customs and cultural background of the people they meet. Ordinarily success can only be achieved by workers who understand and use the language of the area. The Committee recognizes, however, that important contributions can be made by occasional outside specialists working through interpreters.

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Report of the Committee on Extension by Private Agencies

Historical Review

THE CONTRIBUTION of private agencies to the development of agricultural extension has been notable. Interest in agriculture began in ancient times and continued with Cato and others of the Roman Empire, the monks and monasteries of the Middle Ages, Hartlib in England in the seventeenth century and Jethro Tull in the eighteenth, and with Jefferson, Washington, and many others, in our country. This interest by individuals and private agencies has stimulated plans for its improvement. Private agricultural societies in Germany, France, England, Scotland, and the United States in the latter half of the eighteenth century were all harbingers of the great

developments in agriculture during the nineteenth and twentieth centuries.

Historically, the greatest feat of agricultural extension has been the exchange between countries of cultivated plants and of domestic animals. With some notable exceptions, most of the plants and animals on which the agriculture of the United States is based were domesticated in countries other than our own. The greatest influences in this exchange were private individuals and private religious and commercial agencies.

Such organized interest as there was in the improvement of agriculture in this country until the middle of the nineteenth century centered largely about the initiative of individuals and private agencies. Essays, memoirs, prizes for agricultural experiments, organization of local agricultural societies, fairs, exhibits, and institutes were the chief educational tools used.

In the United States where governmental aids to farmers and farm families are now so great in extent and varied in type, the contributions of private agencies have not become less important. Among these many agencies are organizations of farmers, of commercial interests serving agriculture, and others specializing in specific agricultural commodities; the agricultural press; religious bodies; and philanthropic foundations.

The history of extension services as now organized for rural people in the United States goes back to the already classic work of Seaman Knapp, a pioneer in the field of extension education, backed by a private agency. This beginning flowered in the county agent and 4-H Club systems. Again, with private sponsorship, 4-H Club work was transplanted in Denmark, the rest of Scandinavia, and Czechoslovakia. In recent years, and again with the support of private agencies, leaders of government and rural life from other lands have come to study and take home the principles of extension work in the United States. Appropriately modified, the pattern of American extension work was taken by private agencies to Greece, Albania, and Bulgaria. Work in these countries affords the interesting example of governmental adoption from private agencies of procedures and even of appointment of professional personnel. In Asia and Africa also, private agencies have contributed greatly to agricultural extension.

The great number of effective instances of extension work by private agencies establishes its historical preeminence and current importance and portends its contribution to the rehabilitation of war-torn countries.

The Place of the Private Agency

As pioneers in extension work, private organizations have initiated programs; they have experimented in methods and techniques; they have demonstrated the practicability and usefulness or, on the other hand, the lack of value of certain approaches and methods. The work of private agencies is frequently localized; their resources are seldom adequate to apply a program to more than a limited area. Consequently, when the worth of their work has been proved, there is likely to be popular demand that the government extend the program to all the people.

Thus private and governmental agencies work side by side in mutual helpfulness. Although governmental agencies ultimately and inevita-

bly assume more and more of the responsibility, private agencies retain their right to be of service, and they continue to serve in realizing new and unmet needs, pioneering again in different areas of life.

This division of function is natural and right. On the one hand governments have responsibilities that private agencies should not assume and resources they cannot match. On the other hand, private agencies can initiate some types of action more readily than can governments. Also, private agencies are often able to approach problems in a spirit and with a motivation which may be a large factor in their successful solution.

These characteristics of American private agencies working abroad rise from several factors:

Private agencies are, to a large extent, free from diplomatic and international complications. Insofar as they are truly private, they are less likely to be regarded with suspicion or as having ulterior political motives.

They are free to use their resources with a minimum of restrictions. Thus they are able to embark on enterprises worthy of trial, even though full success may not be assured. This has been especially true of some philanthropic foundations in their assistance to pioneer extension efforts in the fields of health and adult education, and in varied fields of agriculture.

Private agencies can include in their program aspects of life and phases of activity that, if undertaken by governmental agencies, would be more likely to arouse resentment as undue interference or favoritism.

Private agencies are able to use in the selection of personnel criteria different from those accepted by governments.

In postwar rehabilitation, private agencies may be able to plan programs looking farther into the future than government agencies can plan.

Many governments are neutral in religious and spiritual matters, yet these factors may be dominant in the solution of some problems.

The motivation of the private agency usually carries with it a spirit of service and a humanitarian sympathy which may be strong factors in persuading people to change established patterns for better ways. Its purpose in undertaking extension work cannot be separated from a spiritual motive.

Considerations in Policy Formulation

The three principal areas within which policies for extension by private agencies need to be formulated are: Relationships with government, personnel, and determination of programs.

Relations to Government²⁴

History clearly demonstrates that private and voluntary agencies have a highly significant place in the service of human needs and social progress. The vast size of the approaching postwar rehabilitation tasks will tax the resources of both public and voluntary agencies. Governments, having a paramount interest in the rehabilitation of their people, will respond to the utmost of their abilities. They may

²⁴ This statement is drawn from the standpoint of an external, or "foreign," private agency or group of agencies which seek to assist a war-torn country in the rehabilitation of its life and economy by means of the extension type of services.

be expected to develop their own plans and organizations and to administer programs for the rehabilitation of national life. The private or voluntary agencies will likely come into touch with governments at more points than heretofore. Any external private agency, therefore, which desires to serve the fundamental concerns of the people of another country will need to work out with the established government or governmental agencies its field of service in such ways as will supplement the governmental programs or will add scope and strength to those programs.

In many countries some governmental counterpart of the American extension service in agriculture and home economics exists, even though the names and patterns vary greatly. Where such agencies exist, the extension services of private agencies should, where possible, be designed to supplement and strengthen their work. In the rehabilitation of war-torn countries, the effective reestablishment and activation of indigenous agencies that are rooted in the patterns, needs, and purposes of the people are essential steps; and private agencies should in all appropriate ways foster and supplement their services and help the people and their agencies to develop and to carry forward their own plans for rebuilding their life and economy.

In the interest of making a maximum contribution to the welfare of a people, it would appear to be increasingly important that the private agencies having operating programs in the same country and possessing related objectives should develop at home, preferably in advance of actual work abroad, a working coordination of their undertakings in the field. Such coordination should facilitate the understandings and good will that are likely to accompany such a united approach to the established governments. Such correlation of their field activities should result in greater total effectiveness without loss of autonomy.

Personnel

The qualifications and character of the administrative and operating personnel in extension service transcend all other considerations. No program, however well conceived, will rise above those who are responsible for it.

The selection of personnel with requisite training and personal qualities is of the greatest importance. This requires consideration of farm, public-service, or other special experience related to the primary interest of the agency. Extension work is recognized to be accessory for some personnel with other general or special assignments.

It is particularly important that private agencies sponsoring extension work be sensitive to the need for agricultural competence on the part of their workers. In the procurement and training of personnel for extension by private agencies, public agricultural agencies and institutions in the United States may be especially helpful by providing training and establishing standards of professional adequacy.

Those agencies that will be reentering countries after the war will be able to locate and use acceptable prewar indigenous workers. Provision for procuring and training such persons should be planned and not left to accident. The expansion and development of rehabilitation programs will require the use of such local leaders.

Determination of Program

Private agencies need to determine their extension programs in the light of the type of contribution they can make. They can develop intensive pilot projects, and demonstrate how some techniques are superior to others. Because of the more limited and intensive work of private agencies, they should be careful to start where the people are, treat farm and home problems as a unit, view special problems against the whole of local community life, use the principle of self-help, begin with the obvious and move later to the more deep-lying problems, use the time-tested, common but sound, knowledge of the farmer, gain the understanding of government and other agencies, limit the extent and variety of attempted programs to what is feasible in terms of available resources and personnel, and attain the participative sharing of local people in the planning, operation, and support of extension programs.

When possible, extension services are best related to the clearly felt needs of local people. If awareness of need is lacking, however, it may be developed by appropriate effort on the part of extension workers.

The importance of considering home and farm as parts of one whole will be clearly seen in agricultural rehabilitation. In many areas the wife and mother shares heavily in the work on the land and in the care of herds and flocks, and at the same time manages the home, prepares the food, and rears the children. Thus, extension programs must be concerned not alone with the land and agricultural practices, but also with the physical, mental, and social well-being of all members of the farm family.

It is important that extension programs be developed for all age groups, but especially for youth. It is important also that emphasis be placed upon those things which a family or an individual can do. This is especially true in the field of health.

Perhaps most important of all is the private agency's responsibility and opportunity to launch programs that develop local community resources and leadership. To this end, widespread participation in planning and operation of programs is essential. Participation serves a twofold objective: (1) It provides primary experience important for realistic understanding; and (2) arouses powerful motives by identifying the participant with the success of the outcome.

Comments on Procedures and Techniques

The procedures and techniques used by private agencies in their extension work range all the way from those designed to satisfy the simple elemental needs of individual farm families to the most advanced findings of science. A working combination of folk knowledge and modern science generally proves most successful. A few of the extension procedures found most useful by private agencies concerned with rural extension are:

Exploring the field thoroughly before deciding on a definite program.

Selecting the element of rural community life (agriculture, or health, or home welfare) that seems to provide the best entree, under existing conditions, to a completely rounded program. Then add the remaining phases of work as rapidly as experience, local personnel, and funds permit.

Keeping the area to be served sufficiently limited in size so that it can function effectively as a laboratory and a demonstration of the methods developed.

Locating the demonstration area, if possible, in a district accessible to government officials and other interested parties in order that public interest may be maintained, cooperation enlisted, and the results made available to the proper governmental agencies for use on a wider scale.

Studying local farm and home practices continuously through simple surveys made by native field agents. (Always make such studies, for whatever purpose, unobtrusively and with field workers who are well known to local people and trusted by them.)

Promoting those farm and home practices that are well proved to be suitable to the area. Don't gamble with a people's limited land and limited resources. Limit experimentation to the land and funds available for that specific purpose.

Avoiding, under most conditions, the use of demonstration farms as a method of introducing improved farm practices. This does not apply to the use of a small plot or farm for experimental purposes (except as noted in the preceding paragraph) or as a laboratory for giving instruction in farm skills.

Capitalizing on the tendency of most local people to imitate their neighbors in practices that increase, even slightly, their meager incomes or improve their modest standards of living. In other words, introduce new or improved practices through individual farmers or homemakers whose confidence has finally been won. This process is often painfully slow in the initial stages, but it guarantees the best results in the long run.

Arranging for all field agents to live and work in daily contact with the people they expect to serve.

Holding field workers to a definite schedule so that local people may come to appreciate the value of punctuality as a saver of time and energy.

Using good teaching methods (which are even more important in informal teaching than in formal instruction) and providing constant training for local workers in such methods.

Initiating, where feasible, extension programs with service types of work (curing a sick animal, pruning a tree, providing first aid in case of an accident), and then proceeding as rapidly as possible to long-range programs of farm and home improvement.

Setting up simple yardsticks for recording and reporting the adoption of improved practices on the farm and in the home, that both leaders and beneficiaries may note the results of the efforts made.

Translating as quickly as possible any increased income resulting from an improved farm practice into better homes, more adequate health protection, a more abundant life.

The foregoing procedures and techniques listed, together with many others that might be mentioned, have been used with varying degrees of success by private as well as public agencies in different parts of the world.

Also utilized by private agencies are such teaching devices as posters, stereoptican slides, slidefilms and moving pictures, institutes, fairs and exhibits, bulletins and pamphlets (where the rate of literacy is

fair), folk stories, the drama, and many other educational techniques generally known to wide-awake extension workers.

Evaluating and Measuring Results

In all extension programs designed by private agencies, evaluating or measuring the results achieved is important. This is of value from the standpoint of determining the effectiveness of the methods used, the effort expended, and the money invested. The practice is also of value to the workers themselves. It can be used to encourage still greater improvement among the people of a community and serve as concrete evidence to the contributors back home that their investment is returning good dividends in human betterment. Finally the setting up of proper measurements frequently aids in defining more clearly the objectives sought.

No one best method can be outlined for measuring the results of an extension program of a private agency. A few simple suggestions are, to: Outline the specific objectives of the various phases of the program; determine how the success and failure of each phase of the program can be measured; record the actual accomplishments achieved by the various methods and techniques used. Some such system as this properly applied will constructively modify many of the traditional forms of record keeping and reporting, which have tended to emphasize the means used by the extension workers rather than the improved farm and home practices actually adopted by the people being served.

Conclusions

Work by private agencies insures a wholesome diversity in programs and approaches; it helps to keep extension systems from becoming unduly rigid or tradition bound. Yet the extension work of private and public agencies can be coordinated; the results of the experiments and projects of private societies can be made available to governmental agencies, and conversely the resources of government can well be used to facilitate the continuation of the distinctive work of private agencies.

The programs of private agencies must be devised for use in limited areas and should emphasize those procedures and techniques that make it possible to satisfy the individual needs of the people and improve the communities where they live.

The success of extension programs of private agencies in rehabilitation work can perhaps best be measured by the extent to which local people have been induced to participate creatively in the resolution of their own problems.

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GENERAL COMMITTEES

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Exhibits

COMMITTEE MEMBERS: George C. Pace, specialist in visual instruction, Division of Extension Information, Extension Service, Chairman; H. T. Baldwin, In Charge, Preparation Division, Exhibit Service, Office of Information; Ralph M. Fulghum, Assistant Chief, Division of Extension Information, Extension Service; Reginald G. Hainsworth, economic geographer, Office of Foreign Agricultural Relations; Charles E. Potter, field agent, Eastern States, Division of Field Coordination, Extension Service. All Exhibits Committee members are on the staff of the United States Department of Agriculture.

Hospitality

COMMITTEE MEMBERS: Mary A. Rokahr, extension economist, home management, Division of Subject Matter; Extension Service, United States Department of Agriculture; Mrs. M. C. Wilson, Chairman of the Extension Wives group, Washington, D. C.; Eula Lee Adams, administrative assistant to the Director, Office of Foreign Agricultural Relations, United States Department of Agriculture; Alice Sundquist, extension specialist in textiles and clothing, Division of Subject Matter, Extension Service, United States Department of Agriculture.

Addresses

Extension's Contribution Toward World Peace

By HON. CLAUDE R. WICKARD, *Secretary of Agriculture*

Even though you are not a policy-making group, you have a chance to make a real contribution to the stability, prosperity, and peace of the world in the years after the war.

Prosperous, efficient, and well-kept farms, and bright, attractive, happy rural homes are most powerful influences in keeping the entire world happy and peaceful. Modern farming and homemaking require the application of much scientific and practical knowledge. Agricultural extension offers the best means of bringing this knowledge to rural people and demonstrating its value.

In countries devastated by war and in other countries strained by their war efforts, progress in agricultural extension has been interrupted. It is important that programs for getting useful information to farm people be restored and enlarged at the first opportunity.

The United States is justly proud of its cooperative Federal-State Extension system. Naturally we are not seeking to extend it to other countries, nor are we suggesting that other countries copy it closely. Customs, habits of thought, and agricultural problems differ too widely among countries for that. For instance, our system of agriculture is based on farm families' living on individual farms, but about four-fifths of the agriculture of the world is based on rural village economy.

But we want to be ready with usable information whenever other nations ask us about our own cooperative extension system in agriculture and home economics and how some of its methods might best be adapted to meet their particular needs. Quite a number of such inquiries were made after the last war ended. We answered them gladly as best we could, but this time we want to be better prepared for such requests than we were then.

The Department's Extension Service and its Office of Foreign Agricultural Relations are to be congratulated for their vision in calling this joint conference. This conference holds real possibilities for promoting world stability. I am not forgetting, of course, the other steps that the United States and other nations, spared the ravages of war on their own soil, will take to aid people of less fortunate countries. For instance, we as a nation shall be glad to send our full share of emergency food and clothing to the people of devastated countries. For the longer pull, farmers in Europe, Asia, and Africa need farm machinery, seeds, breeding stock, fertilizers, and other materials to help them to get back on their feet. Both of these steps should be prepared for at this minute.

But it is also true that every nation whose farm land and economy have been torn by war will need to do more than ever before toward getting the latest information on farm production and farm living to the people of the land. First, it is clear that only through the best technologies will farmers of the world be able to produce enough for all the people of the world—provided, every person is able to get all he needs.

Second, only the most efficient methods, plus full production, will ever enable families living from the land to come anywhere near equal living standards with families that live in towns and cities. We talk about world peace and plan hopefully for it; we must have peace and stability if our civilization is to survive. But there is little chance of establishing permanent peace so long as great numbers of rural families throughout the world are seriously lacking in income, education, housing, health, and other living standards.

Research, of course, is basic in the effort to reach those goals. It must be continued and broadened. In many countries, however, the immediate need for getting the findings of existing agricultural research to the mass of farm people is even more urgent than the need for additional research.

I want to mention one point I feel concerns the practical nature of international cooperation. In some industries new discoveries and improved methods are trade secrets carefully guarded from all actual or potential competitors. That, in general, is a most shortsighted point of view—one that usually winds up by doing no real good to anyone.

Fortunately, when an individual farmer finds a better way of doing things, he is proud of it and tells his neighbors so they can share in the benefits. In the same spirit, national agricultural organizations are glad to share useful information. The United States Department of Agriculture always has followed a liberal policy in making scientific and technical advances available to the rest of the world, and in return we have received much valuable information from other nations.

This policy is sound. No nation in the long run ever made itself richer by trying to keep other nations poorer. Let us assume that the lessons learned from extension methods in the United States result, as I hope they will, in marked increases in the efficiency of farm production in other countries. Farm prosperity in this country depends almost entirely on high employment and pay rolls here.

One of the best ways to maintain full employment is a healthy foreign trade. You can't trade very long or advantageously with countries that are hungry, "broke," and full of unrest. For the long pull, American farmers will have better markets both at home and abroad if farmers in other lands enjoy a good standard of living and produce abundantly and efficiently. Above all, our foreign trade depends upon mutual understanding and cooperation between nations. This conference can do much to increase that understanding and cooperation in the fields of farming and homemaking.

In conclusion, let me express to you my very best wishes for a successful conference. You have a great opportunity before you; the members of your groups are exceptionally well qualified to make the most of it; and I am confident they will.

Some Implications of the Hot Springs Conference in Relation to Extension Work

By PAUL H. APPLEBY, *Assistant Director, Bureau of the Budget;
American Member of the United Nations Interim Commis-
sion on Food and Agriculture*

I imagine that most of you are familiar in a general way with the plans for an international organization already being called Food and Agriculture Organization. The report of the Interim Commission on Food and Agriculture was released a few weeks ago, and the procedure will be for submission of that report and recommendation to the Congress by the President.

To describe the F.A.O. in a single sentence, it is an effort to extend the extension idea throughout the world and to develop it in world terms. What is envisaged is a promotional, stimulating, recommending organization, wholly postwar, wholly nonrelief, to do in world terms what already was familiar in this country prior to 1930. A general, central objective will be to stimulate productive efficiency and establish services of value to agriculture.

Many things will result. Many others may result, but the two most certain results I think are these: First, there will be a great stimulation of the exchange of students and technicians, opening up great new fields of services for American institutions and American specialists. In that connection, it may be of some interest to think about the different appeals that many of our institutions will have for people from different parts of the world. We shall have a great new market for people trained in our institutions. I think that is the most certain, immediate, and almost universal consequence of the organization—new attention to food and agriculture in world terms.

The second main and certain and immediate consequence will be the sequel to that—the concrete development of the extension idea. That idea will have its bearing, have its impact, on different levels. F.A.O. itself will be a world center of extension, dealing with agricultural information in terms of world perspective. The F.A.O. also will help to formulate and stimulate the organization of the handling of agricultural information in terms of regions, and, of course, in terms of nations; and then, finally, within the nations will be the more intensive development of extension in much the same pattern as here.

We shall see a duplication of extension history, which will utilize research, exhibits, demonstrations, short courses, projects in their general form and projects in specific forms, and gradually approach the highly organized and intensified basis that we have seen extension come to in this country. In the world at large, as here, the service of extension will have its basis in research. In many parts of the country the beginning will have to be almost wholly in research, because research has not been developed to the point where it has been usefully carried out through an organized extension group.

I am inclined to emphasize the organizational aspects we have been working on during recent months. It is important that we have some machinery for giving international focus to international knowledge about national agricultures. The facilities for creating an understanding of national agricultural programs, situations, and facts, will have a tremendous bearing on our ability to advance along collaborative patterns in building a world community.

I don't know how many people have given thought to the increasing importance of the international aspects of our domestic policies. We have always been aware in the United States of world markets for agricultural products, but I think not nearly enough people are aware of the way in which we handle our agricultural policy. Nations everywhere are finding it necessary to engage in more direct controls over the highly specialized and diversified competitive activities of peoples. As governments have intervened, they have created situations in the world that have devastating proportions. All nations are intervening in these affairs for very valid internal reasons as I see it, but creating a condition of reconciliation of differences on an international level is a business of the first order of the day. The F.A.O. will not have the power to change policies, to reconcile these things forcefully, but it will at least provide a form for the interchange of information, for the creation of wider and deeper understanding, and for the development of proposals that will take care of valid national group interests in terms that will make them more complementary, make them add up more in terms of mutual advantage, and more in terms of world order.

The Cultural Approach to Extension

By CARL C. TAYLOR, *Bureau of Agricultural Economics,
United States Department of Agriculture*

I shall attempt (a) to bring you the contributions of the sciences of cultural anthropology and sociology as they apply to extension work, and (b) to illustrate how knowledge of a people's culture can assist the extension worker in carrying out his program, and how lack of such knowledge may handicap his work without his realizing the fact. I am quite aware that my necessarily brief and dogmatic presentation will be unsatisfactory to cultural anthropologists and sociologists because of its brevity, and because many of them have never given their knowledge practical application. I shall limit my illustrations to the United States and Argentina, and I shall speak, not of the art, music, or religious components of culture, but of people's ways of doing and thinking that influence extension work.

What is extension, what is culture, and how does one put a knowledge of the two together in launching and operating a program?

First of all, what is extension? It is the efforts of one person or a group to bring knowledge to other persons. If bringing this knowledge to them does not change their ways of doing and thinking, no contribution is made. If it does produce change, it thereby changes their culture, a difficult and serious thing to do. I want to emphasize that an extension program is not effective unless it does produce change—change in culture.

Now, what do we mean by culture? The culture of a people consists of: (a) Their manner, means, and methods of making a living; (b) the systematic ways in which they organize themselves to make a living and in living, in recreation, worship, art, care of the sick, burying the dead, etc.; and (c) their attitudes and beliefs about their own ways of life and about other people. These attitudes and beliefs constitute the cement of their society, without which their culture would disintegrate. This cement, made up of the prides and preju-

dices of the people, is generally rather rigid and hard to crack. Understanding it is more important than understanding their behavior.

Nine-tenths of the scientist's knowledge of any culture is knowledge of the things that are just common sense and truth to the people themselves. I purposely use the words "common sense" and "truth." Common sense means that all the people know a good deal about their own culture. This knowledge is common knowledge, folk knowledge, the common sense of the people. I used the word "truth" because it connotes the trust and faith people have in this knowledge, and indicates that in 9 cases out of 10 they believe their ways of doing and thinking are the right ways. Their prides and prejudices about these ways give them a culture. In other words, what the scientist calls "culture" and describes in terms of folklore, folkways, folk knowledge, etc., is what the people themselves call common sense and truth. These are the ways that have been handed down to them for generations, and their prides and prejudices include the social organization and philosophies that grew out of these ways.

It is very important to know that culture pervades everything people do, or think, or are. When I say "I am an American," I mean I am an American when I work in the cornfield alone, when I attend school or church, or vote, or when I am in the Army, or a father, a leader, or a follower of someone else. In other words, the culture of a people is a part of the people all the time, and you cannot influence the people without influencing their culture.

It is also very important to know that people have systematic ways of preserving their culture. Any change or modification must nearly always come through their leaders—medicine men, priests, elders, teachers, supreme court judges. An intelligent cultural approach never disregards such people, but rather makes use of them.

No people among whom extension workers will live and work are so isolated as not to be part of a national culture. You can't understand the culture of even the most isolated group until you understand those things that are idealized and operative in their national society. Such knowledge is especially important to extension workers because practically all extension programs must come down to local people through some overhead machinery—government, church, or some other broadly institutionalized agency that brings to local people knowledge originating outside their local areas. It is necessary, therefore, to understand the channels by which the needs and aspirations of local people travel upward through the class structure of society and by which the contributions of those higher up travel downward to the local people. It is also necessary to understand the techniques of communication by which the people's aspirations travel upward and the services to them travel downward. Culture operates on all levels of life and pervades all the people—those at the top, in the middle, and at the bottom.

In the Argentine Sierras I visited highly isolated oases communities—self-sufficient communities. Although the people were only slightly in touch with the national Government and Buenos Aires, I found them just as proud of being Argentineans as any and all other Argentineans. They had schools that were part of the national school system and their local Catholic Churches were part of the Catholic Church of Argentina. They were far more isolated physically than culturally. Any extension work carried to them will be through chan-

nels coming from Buenos Aires and by increasing the cultural traffic over these channels.

The point I am emphasizing is, that every people has its own class structure, its own channels and techniques of communication between the classes. The extension worker cannot change the class structure or the channels, and probably has no capacity to create new channels. He can't entirely change even the techniques of communication, because they are subtle, often the reflection of the class structure itself. The best he can do is to use the class structure—the social, economic, and political organization of the society in which he works—to deliver his contribution over its channels of communication, and do everything possible to make the techniques of communication more effective than they now are.

To illustrate the need, and even the difficulty, of following these necessary paths and methods of approach, let me ask you this question: How would a man, say, from Mars, go about doing extension work in the United States; that is, go about changing our culture? You say to yourself, "Who wants to change our culture? Who has anything to tell us?" Remember that other people believe just as much in their culture as we do in ours. I know this is true in Argentina, and I suspect it is true in many other places. In spite of the fact that many sections of the world are definitely and eagerly looking to us, have faith in us, and believe we can help them, they still have their own habits and beliefs that are bound to condition our capacity to help them.

Well, if I were this man from Mars coming to the United States, I think I would first try to understand the prides and prejudices of the American people. I hope I would realize it when I touched their prides, but because of their courteousness I might touch some of their prejudices and never be aware of it. In Argentina the people were too courteous to let me know when I touched their prejudices, but I have a clear and rather thrilling picture of the sparkle in their eyes when I touched some of their prides. To start with what the people know and do and have prides in doing well is just common sense and good technique. Although they have built their own houses with their own hands for many generations, their pride in doing the work well makes them eager to learn to do it even better.

In the United States the man from Mars would soon learn of our dominant belief in democracy and its peculiar meaning to us. He would discover that it meant a belief in the everlasting worth-whileness of every individual, and confidence in that person's capacity to be equal to any other person, given the opportunity. He would discover that in social organization we mean by democracy the projecting and carrying-out of an activity only when sanctioned by a vote of all the people, or at least all who want to vote, and that he could not move forward unless a majority of the voters favored the program. A man from Mars would do well to make use of these prejudices and prides of ours, if he hoped to get anywhere by carrying out a program among the people of the United States.

He would soon learn that we make a shibboleth of being practical, that is, we move a program forward quickly in such a way as to get observable results. I was baffled in Argentina by the many well-outlined programs, fine laws, perfectly formulated and neatly phrased prescriptions for carrying out programs, many of which had never

been executed. I had to understand that among the intellectuals and lawmakers of Argentina the logically, carefully worded statement of a program was considered an accomplishment in itself whether anything was ever done about it or not.

How much we make a cult of science was tremendously impressed on me when I worked in Argentina. There I found highly trained scientific people in the colleges and universities, but very little scientific practices in agriculture. Our farmers talk about fertilizer formulas, genetics, feed rations, plant and animal diseases, etc.; know scientific practitioners; use scientific bulletins; and feel at home with the tenets and contributions of science. They are proud of themselves when they say they are both practical and scientific farmers. In Argentina the scientifically trained man, if employed by the Government, can't be certain of assignment in his own field. He does not fully contribute his knowledge to the farmers either personally or in writing, because they know nothing about science or scientific terminology.

The man from Mars would also be deeply impressed with our faith in education, our belief that we will solve practically all of our problems by educating the youth; that education is essential to the operation of a democracy, it pays cash dividends and is something everyone should strive for. In other words, we believe that all these things are not only basic to our culture but related to each other. Argentina, on the other hand, believes more in art, friendliness, finesse. Many of the things we call practical, scientific, educational, they may consider crude and seldom really spiritual or artistic.

Our man from Mars would learn how we have systematically organized ourselves to perpetuate these cults of ours—through common schools, compulsory education, parents' sacrificing in order to send their children to high school and college, universal suffrage, and everyone's justifying the rightness of one's own opinion and claiming it to be scientific. He would learn that these are our most important pieces of machinery, and that our basic institutions perpetuate and promote democracy, science, efficient production, and education.

This man from Mars is a symbol by which you may learn to understand other people and realize that you must work through our organizations and leaders and institutionalized channels. What luck do you think anybody would have who came to the United States believing, even if not saying, that these things aren't right or efficient? What luck would you have if you approached any other people with the idea that your success depended on changing their class structure, setting up new organizations, developing new leaders, and ignoring their techniques of operation because you knew there were better techniques?

Agricultural extension has gone as far as it has in the United States, and much further than in some other countries, because of our beliefs and our democratic forms of organization. Let me illustrate again by contrasting the United States and Argentina without any invidious comparison at all, but only as an objective observation. I have spent many hours with both scientifically trained men in Argentina and actual farmers. Few of the scientifically trained men came from the farm, and they may not have a working knowledge of practical farming. In the United States nearly all of our agricultural scientists came up the ladder from the farm. And because they have traveled

up the channel from the farm and by means of common-sense farm knowledge, they can travel that channel right back down again. They know how to plant corn and cotton, how to hitch up a team or drive a tractor, and how to talk to farmers about the new things they have learned. Furthermore, most of them know that after having been away from the farm for a long time, they can learn some things from the farmer. In Argentina, the scientifically trained man would find this belief a little embarrassing, because he is a white-collar man and the farmer isn't. The point is, that the class structure itself may be a barrier to the smooth flow of extension information. All you can do about such a barrier is to assist the man higher up to develop more adequate techniques for triumphing over the barrier.

I cannot conclude without emphasizing that you may be convinced of the clearness of what I have been saying and yet make some very great mistakes, if you do not understand the culture of each people with whom you work. Merely being able to name the categories of information needed to understand a culture does not give you the understanding itself. Cultures are as different from each other as are soils, animals, or plants. You must understand each culture specifically in terms of itself before you can start effective extension work. If you tell people what they ought to do, or that they need a different kind of organization or new leaders, you will be whipped before you start.

Become as deeply convinced of the truth of what I am saying as you can, and rest assured that you will make many mistakes when you work among unfamiliar people. I can testify to this by the mistakes I have made myself, and have no hesitancy in saying that the first thing an extension worker needs to know is the way the people he seeks to serve act and think, their established relationships with one another, their pronounced prides and prejudices, their trusted leaders. Second, he must know the channels and techniques of communication of the class structure of the nation and the local areas in which he works. Third, he needs of course to know his subject matter. He will, however, never be able to make a good contribution by any method other than the cultural or common sense approach.

Extension Experiences in India and Mexico

By D. SPENCER HATCH, *World Service Committee, Y. M. C. A.*

I am privileged to speak with you about two great countries, India and Mexico.

India.—First, India, a country of contrasts. Twenty-two years ago, my wife and I set about to establish a rural reconstruction center in Martandam, in Travancore State. The land was much poorer than in other parts of this State; there was less rainfall. We were far away from any cities, but the motor road with busses passing over it would be a help in reaching the center and in transportation of products. The village and surrounding area offered representatives of the many kinds of people in southern India.

Our limited budget warranted paying only two or three helpers, but we were successful in enlisting many honorary, unpaid, part-time workers. Before starting on my last furlough I counted 1,310 of them.

During the ensuing 2 years when we had been making our experiments at the center, and we had not lacked for an audience—the 1,500 school boys and girls next door who could ask as many questions as children anywhere in the world, and the swarms of people passing our gate on market day who would often come in to squat under the shade of our trees the while to rest and watch the new “goings on.” When they saw something within the reach of their understanding and financial ability to copy, they copied it. Sometimes they asked our help, sometimes they went silently away to work out their ideas in their own way.

This effort to bring a divided people together to work for their common good finally shook itself down into our foremost pillar of policy which we named the Comprehensive Program. We found out that there was little good in answering one side of a farmer’s needs. We evolved this definition of the purpose of our work:

The purpose of rural reconstruction under our association is to bring about a complete upward development toward a more abundant life for rural people, spiritually, mentally, physically, socially, and economically.

Just as the comprehensive program shaped itself in the course of our work, so did other pillars, side by side, each dependent on the other to make our work a coordinated whole. The foundation for rural reconstruction is our spiritual basis. In countries on both sides of the world where I have worked and studied, I find rural people to be particularly spiritually minded.

Rural reconstruction must be a self-help movement, where villagers are helped to help themselves. Workers must be on very intimate, brotherly terms with the people, and must know well what they are trying to teach so that they can really give expert counsel.

Rural reconstruction must reach down to the very poorest. Simplicity must be the keynote in all efforts with underprivileged rural people. The worker needs to demonstrate simple habits in his own life and be willing to teach and help people practice only the most simple and inexpensive methods they can afford.

The type of personnel is important. A rural background is definitely needed.

The introduction of an entirely new product generally fails because the villager lacks anything within his own experience to tie it to. We always find a basis for a new project and try to build on something that is already there. People must feel that the program belongs to them, is of their own choosing and planning, and that we are helping them.

When local leaders began to feel the need of more knowledge, we started with 2 weeks of summer school. Gradually through the years, that simple beginning has grown into the Martandam Practical Training School for Rural Reconstruction. We learn by doing, working long hard days for the longest course which runs 9 months now. We run also, week-end courses over 3 months for those who cannot spend time away from their land or their schools, and educational weeks for a whole cluster of villages. Well over a thousand of our students have gone out to their home areas to spread the knowledge of the more abundant life to their fellowmen.

Mexico.—In Mexico we began our work at Camohmila, a typical region without roads; 61 percent of Mexico’s villages have no roads. We were

among real Mexicans of pure Indian blood, not so much touched by the modern civilization of the city, 55 miles away.

The Mexican campesino needs education fitted to his simple needs; a higher physical stamina; recreation; a less suspicious contact with his neighboring villages, with his markets in the dominating city; with his Government; a sense of security in promises kept and in an assured justice; industries to fill his idle months; health and sanitation; freedom from too many uneconomic traditions.

We set about to establish a rural demonstration center. The 11 villages around us, with 12,000 people, offered a challenging extension area. We did not need propaganda, for these Mexican Indians were good at looking, at thinking, and at deciding what they wanted.

On our 13 acres, we have experimented with over 70 kinds of field and garden crops and fruits. We have made a remarkable showing in improving our land. We have, in small model shelters, a few demonstration animals for cross-breeding. We have an exhibition building where people can see some of the results of the work. This building is busy with handlooms weaving in both wool and cotton, sewing and knitting classes, and many other forms of work, as well as fiestas. It also houses the clinic.

On the corner of our field we built a small model house hardly believing it could start a housing movement so quickly as it did. Our own adobe house serves as a larger model house. The student house, built by students for students in rural reconstruction, is a third model. The people, the Y.M.C.A., and finally the governor of the state, constructed the model school in the nearest and smallest village. Now other villages are trying to build still better models. Perhaps most important of all, we are gathering quite a staff—a team which is pulling together remarkably well.

What Mexican villagers want most is trustworthy advice as to what to do. The extension department of our Camohmila Center pulled us out into the villages where rural work must be done.

Throughout the world the needs of rural people are similar. The extension principles and methods we have discussed will serve in every country, when adapted to localities. They will work in all the war-torn countries, where land must be reconditioned, homes rebuilt, lives rebalanced, where man must be spiritually, mentally, physically, socially, and economically strengthened.

Consultants' Statements

Teaching Through Loans

By WALTER BAUER, *Agricultural Economist, Farm Credit Administration, United States Department of Agriculture*

Credit institutions operating only for profit do not greatly care whether a farmer's credit standing or debt-paying ability is good because he is an exceptional operator on poor land or a poor operator on exceptional land. As long as sufficient tangible security is offered and payments seem assured, such institutions have no interest in making the average debtor over into a master farmer by organizing an advanced training program for him. Moreover, it is dangerous for a bank to suggest specific courses of action to improve the borrower's farming methods or to increase his profits. If the loan should break down—no matter for what reason—the bank is likely to be blamed. In the cold-blooded realm of money lending the bank sees to its own business exclusively and it is up to the farmer to see to his.

What, then, can a bank teach through loans without being held responsible for mishaps in the farmer's business and without great trouble and expense?

General Lessons on How To Use Credit Wisely

Farmers as a rule dislike any debt, even one incurred for a productive purpose. The experience of their forebears, or perhaps of their contemporaries, with the loan-shark type of credit intensifies their distrust of all credit. There is also the matter of false pride in being debt free. For such reasons many farmers continue to operate less efficiently than they might with the help of credit. Properly managed loans can teach the farmer that credit is not necessarily the beginning of ruin, it can be as harmless and honorable a production tool as a plow, and is not a last straw when cash resources give out.

Frequently farmers do not understand the specific and circumscribed roles of long-term amortized mortgage credit, intermediate, and short-term credit in farm production. A bank, however, can easily teach the differences involved by suggesting the most appropriate type of loan. In connection with an advance of operating funds, for example, a responsible agency will not accept real estate security, although the borrower offers it, because to do so would be to freeze assets that might be needed for a long-term improvement loan. In explaining this to the borrower the agency is giving an object lesson.

The Loan Analysis as a Primer

Ordinarily the farmer does not analyze the nature of his business in the way it unfolds on the loan application sheet of a lending agency. More often than not the prescribed analysis reveals to an honest pros-

pective borrower, for the first time at least, some of the weak points of his farm, provided it goes beyond a mere statement of assets and liabilities. To increase the educational effect of the analysis, a bank should let the applicant make out the full statement regardless of how long this takes, rather than have its loan representative ask questions and fill in the answers during a hurried interview.

If the applicant's business does not warrant the loan, the bank can perform an educational service by elaborating on its analysis and by pointing out the trouble. In all probability the applicant will then be eager to find the farming techniques that would remedy the trouble. Recognizing that the bank's opinion is based on experience gained from insight in the farming business of successful borrowers, he is likely to value what he is told. Similarly, where the attachable assets of the prospective borrower exceed by far the amount asked for, to make the loan simply because the security appears ample is not sufficient. Perhaps the applicant misjudges the cost of his project, or he may need a larger loan to make the project properly effective on his farm. By discussing the purpose of any loan in relation with the amount requested, banks can give valuable lessons in farm management.

On that occasion, they could also teach in a few well-chosen, simple sentences the fundamentals of such aspects of the economics of agriculture as capital accumulation on the farm; the function of capital in general and in farm production; the relation of required annual returns to capital, or of the returns to labor; and how all these tie in with the gross and net returns from the farm as well as with the rate of interest on the loan. Or the borrower could be given a short printed statement on these points.

Other rudiments of the economics of agriculture can be taught in connection with the appraisal of a farm for a loan. For example, the borrower is entitled to learn why the value of the farm and the size of the loan are not based only on today's or on last year's land values, farm prices, and earning capacity, but on the average of these over a long period of years.

These and other examples not mentioned would indicate that banks can be excellent media through which to carry on certain types of desirable extension work. In addition, they could be used as channels for distribution of extension literature concerning subjects on which, in self-protection, they cannot give personal counsel.

Teaching Through Supervised Credit

The easiest way to teach through loans is to provide a system of supervised farm credit. Probably never before in the history of world agriculture have extension techniques been used to better advantage by a creditor, or have borrowers and their families had better opportunities to be taught by trained experts of a lending agency than today in the United States. A farm and farm-home management plan developed jointly by the borrower and the creditor is the corollary of any Farm Security Administration loan. And in the course of constant checking on the planned use of the borrowed funds, the farmer has additional unprecedented opportunities to learn from the agents of the creditor.

Yet no matter how desirable or necessary the farm security method of teaching through loans may appear for some countries, it is bound

to encounter considerable obstacles in others. Experience has shown that the cost of a competent, thorough, and continuous farm service for each and every borrower can hardly be eked out of the interest a lending agency must charge to meet the competition of other lenders not providing this service. In most countries the public will have to foot the bill for such teaching through loans after the appropriate lending agency is set up.

In those war-torn countries where for a decade or more farmers have been regimented, the reaction to supervised agricultural credit is likely to be unfavorable. Acceptance of the teaching that goes with the loan would have to be voluntary. But in that case the creditor would have to hold in readiness a costly service without guarantee of full utilization and without the possibility of seeing through safely all the loans made at the exceptionally favorable terms lending in war-torn countries might call for.

Teaching Through Nonsupervised Credit

In lieu of plans for supervised credit, are there other methods of teaching through loans in war-torn countries? The answer depends on certain prerequisites: Newly needed credit should come exclusively from institutional lenders; the debts owed by farmers to private individuals should be refinanced with institutional funds as far as possible; and credit agencies must be made extension or farm service conscious.

The details of accomplishment will differ, of course, between countries, and a Herculean amount of work will have to be done to find proper solutions for each country and for each one of the multitude of lending agencies involved. On the other hand, it will not be too difficult to suggest to any given individual lending agency the means by which it may teach through the loans it makes without having a large and specialized extension staff for the purpose. Combining extension techniques with making a loan may be surprisingly easy for many lending agencies, once they realize that they are expected to assume a teaching function. In many cases, too, no great additional expenditure will be necessary.

Let us consider the problem first at the level of the loan analysts. These men are trained to safeguard the interest of the bank by critically dissecting the business of the applicant. In the course of their analysis they may find that a different type of loan of the same size for a purpose other than that planned by the applicant is likely to be of greater benefit to the farm. They may see many opportunities for improving the client's technical and managerial knowledge. Still they refrain from making suggestions to avoid possible embarrassment to their bank and to themselves.

In war-torn countries, where use of borrowed funds should not only produce optimum results on the individual farm but also contribute to the general desirable development of agriculture, guidance through loan analysts could be made very effective. However, it would need to be clearly established that in accepting the bank's best advice the borrower would take his own chance, and the bank would not be held responsible. This understanding seems to prevail where banks, such as the German *Landschaften*, have seen fit to employ technical and economic consultants whose services are at the disposal of the clientele upon request. To go one step further, banks could offer unsolicited

advice on farming methods and farm business practices through specialized personnel for the entire life of the loan. Banks in war-torn countries should follow this approach rather than work through loan analysts only. Governments might even subsidize these activities if their cost should prove unbearable to the institution.

General loan policies can be used very well indeed to steer agriculture in desired directions, and to teach the required improvements in farm management and farm organization. Liberality or frugality of lending for specific purposes could be regulated in accordance with the local or national goals set for agriculture. Then there is an educational value in specifying in detail the purposes for which the bank makes loans, instead of merely making the usual statement that the bank stands ready to lend for any bona fide agricultural purpose. Farmers studying such a list of loan purposes may consider farming practices they have never thought of before. Without appearing to offer definite suggestions as to preference, the bank management could encourage desirable practices by making the rate of interest and other terms more favorable.

Loan policies of this kind presuppose that the bank managements themselves understand and fall in line with local and national objectives. They should also refrain from aiming solely at maximum profits by making lucrative loans for undesirable purposes, as this would hamper progress in the rehabilitation of agriculture.

Credit Cooperatives Are Teachers

Several of the war-torn countries have highly developed cooperative systems of agricultural credit. Here the opportunities for teaching through loans are particularly good. In credit cooperatives, such as the production credit associations (Farm Credit Administration), in the United States, lessons are being taught constantly—perhaps involuntarily but, therefore, unobtrusively. Most of the officers and the committees passing on loan applications are substantial and progressive farmers, and as members of the same cooperative they have a personal stake in guiding the borrower-member to his best advantage. In war-torn countries it should be fairly easy for such groups to teach whatever is required in agricultural reconstruction and possibly to redesign the pattern of agriculture according to the international plans for world prosperity.

Maintaining a Liaison Between Agricultural Research and Extension

By P. V. CARDON, *Research Administrator, Agricultural Research Administration, United States Department of Agriculture*

Discovery of scientific facts pertaining to agriculture, human nutrition, and home economics and dissemination of these facts among farmers and homemakers is an exalted pursuit shared by agricultural workers in both research and extension.

Experience in this pursuit, for administrative and other reasons, has generally effected a division of responsibilities. The quest for scientific facts has become a primary function of research and the dissemination of knowledge thus gained a primary function of extension. This division of responsibilities, although found to be highly desirable, is after all only an organizational means of facilitating

activities. As such it is of minor consequence to the recipient of benefits bestowed by these activities. The major concern of the farmer and the homemaker lies in having the facts made available to them. Failure in this regard could mean that both research and extension would be falling short of their high purpose. Hence full effectiveness in either field demands the closest possible liaison between them.

To effect and maintain a desirable liaison ordinarily is the responsibility of three groups of people. Broadly, the three groups include: (1) Those who through legislation or otherwise create and provide for the functioning of research and extension agencies; (2) those who administer the agencies; and (3) those who, as research or extension workers, carry out the functions of the agencies.

With respect to the first group there is need now only to express the hope that in discharging their responsibility they may always recognize the common major objective of research and extension work and the need for coordinated action if that objective is to be achieved.

The administrators of research and extension agencies in the second group are helped or hindered, as the case may be, by a number of factors. These include (a) the legislative, appropriation, or other acts of the creators and supporters of the agencies, (b) the policies of institutions of which research and extension agencies are integral parts, (c) their own personal virtues or shortcomings, and (d) the degree to which workers under them respond to their leadership. Each of these factors is important whether research and extension are administered under one head or two. Their relative importance will vary in different situations and circumstances. The most important for present purposes is the last named factor, the degree to which workers respond to administrative leadership.

Beneath every administrative pronouncement or agreement designed to effect and maintain a desirable liaison between research and extension must be sincerity of purpose, mutual trust, and consistent action. These things cannot be written into documents. Their presence is revealed only by the acts of the subscribers to such documents. And their presence, or absence, is reflected in the attitude and responses of workers who are influenced by those acts. This is important because among research and extension workers themselves is the effectiveness of relationships determined. Their desire and will to cooperate in practice are vital. With them, maximum effectiveness is attainable; without them, it is impossible.

Among the many steps that lead toward the maintenance of a desirable liaison between research and extension workers the following are of particular significance:

1. Close association in the job to be done. This is the primary step toward the development of mutual interests, common understandings, and appreciation of each other's abilities and responsibilities.

2. Cooperation in maintaining a two-way flow of information which helps to keep both research and extension activities in advance of farm and home needs, where they should be.

3. Consultation in the formulation of projects and programs, which eliminates many of the difficulties that arise when consultation is postponed until after the projects or programs are well under way. Integration of activities is much simpler and far more effective in their early rather than in their late stages. Criticism can be more gracefully

offered and more graciously received if it applies to a proposed project or program rather than to one already in operation.

4. Courteous acknowledgment of each other's program and proper recognition of the important part each is playing in the larger program of rural betterment.

5. Continuous effort in support of the single purpose to which both research and extension are dedicated.

These steps are basic. There are many others, of course, but they are concerned more with the details of organization or procedure. If these basic steps are taken, the others will be taken as matters of course. And the result will be reflected in a better agriculture and in improved rural living.

Extension Experience in Public Health

By J. O. DEAN, *Senior Surgeon,*
and

MAYHEW DERRYBERRY, *Chief, Field Activities in Health Education,*
United States Public Health Service

Public health today has three great areas of interest: Prevention of disease, control of disease, and promotion of positive health for all the people.

Within these areas are rich opportunities for cooperation between public health and agriculture, especially in working in war-torn areas. It has long been known that some diseases can be prevented or controlled effectively through the efforts of a relatively few people, thus promoting the positive health of a great number of people. Responsibility for resettlement sites, water supplies, sewage disposal, rests with experts trained to deal with these matters.

There is a second group of diseases, however, the prevention and control of which are possible only through active participation of practically all of the people. Experiments to find out how this participation on the part of the people could be enlisted in matters of health have been carried out by many groups, of which the Public Health Service and the W. K. Kellogg Foundation programs serve as examples of different approaches.

The Public Health Service's experimental programs in health education in war areas was an emergency measure at the outset. Trained health-education consultants were lent by the Public Health Service to States and assigned by them to county health units in war-boom and extra-cantonment areas. After a careful survey of the health assets and needs of the county and interviews with key women in the communities, local women were stimulated to organize themselves (usually on the block plan) into study groups to learn about local health problems and what could be done about them. Through these study groups, many women were awakened for the first time to the fact that rats infested their town; that epidemics of intestinal upsets occurred because of insanitary handling of food in local restaurants; that prostitutes and "pick-ups" on their street corners were spreading venereal diseases to soldiers.

Women discussed these problems, and, as a group, decided what they could do about them—and then did it. The professional worker acted at all times only as the "catalyst" who stimulated and expedited action, but did not in any way take over the responsibilities of local

women. Though this program was initiated on an emergency basis, the foundations were laid for long-range programs to follow up.

A different approach to long-range community organization was carried out by the Kellogg Foundation in its seven-county demonstrations in Michigan. The problem was attacked by means of a widespread adult-education program, designed to develop local leadership. Different approaches were formulated for the various professional and lay groups, both organized and unorganized. One group stimulated another to requesting guidance until, in a period of 12 years, scarcely a group remains in the seven counties that has not participated in some educational program contributing in some way to raising the health level of the area.

The two experiments briefly described represent two different ways of using the problem-solving approach effectively. One starts with the recognized leaders in an area; the other with the people themselves. Both have been successful because they have been fundamentally sound and executed in a democratic manner. They show, above all, that there is no one way to do health education, but the program must be adapted to local needs and follow to some extent the familiar pattern of the population.

These demonstrations of extension work with rural people perhaps point one way in which problems in foreign countries could be approached in a realistic manner; not by handing out things free, but by stimulating local organization and lending a helping hand when requested, and by working through local leaders the people already recognize.

Through this problem-solving approach, which can be applied to any other field as well as to public health, the professional worker gives guidance and stimulus, but lets the people develop their own solutions. Only through this active participation of the people themselves can patterns of life gradually be changed and better, more healthful habits be practiced.

Basic Principles

1. Community health education is an activity of the people, but well-qualified, trained personnel is needed to guide this work.

2. Personnel should not be spread too thin. Concentrate initial work in a small area, then expand to neighboring areas as leaders are found locally.

3. In going into an area, capitalize on existing community interests. Work on a problem in which the people are interested and gradually work around to those in which they should be interested.

4. Keep in mind and be guided by the standards, policies, practices, and mores of the group with which you are working.

5. Have a plan, and frequently stop to evaluate progress. Let speed and method of procedure be determined by the people doing the traveling, not by the professional worker.

6. Better results are obtained if the people have a hand in the planning.

7. If policy is "demonstrate and withdraw," the training of local leaders or professional workers is essential to carry on the program after the demonstration personnel leave.

8. In emergencies, people experienced in the field of education can be given training on specific aspects of public health to carry on a

program in their home communities. This type of personnel needs much counseling and close supervision.

9. A demand for services that cannot be obtained should not be created in the population. First, professional workers should be trained and provided with facilities so that they can "deliver" when the demand comes from the people.

"The Case" in the Analysis of Agricultural Extension Techniques

By CHARLES P. LOOMIS, *Head, Department of Sociology and Anthropology, Michigan State College*

The utility of the case approach in the study and teaching of agricultural extension techniques can perhaps be best illustrated by a hypothetical example.

What Would Happen if American County Agents Attempted To Do Extension Work in Foreign Countries?

If 20 successful American county agents were to spend a year, each living a few weeks in rural communities representing different cultural areas in various parts of the world, the report for each separate community would, no doubt, be quite different. The special interest of each reporter would offer a separate vista. If these 20 county agents concentrated on the introduction of one practice that was new to the communities, let us say the dehorning of cattle or the castration of male animals not needed for breeding, they would probably have different ideas concerning the best procedures to be used in introducing the new practice. All would probably be influenced by their experiences in the United States.

Careful Planning for a Project Even Among Agents of Different Backgrounds and in a Strange Culture Would Bring Some Consensus

It is safe to say that if these agents each spent a little more time with good interpreters studying the people and their practices with a view to designing plans for the introduction of this new practice, reports of these plans, even if written independently, would have considerable similarity. For the introduction of these practices the part the animals play in religion, which animals are sacred and which not, what practices are taboo, which a matter of ritual and which forbidden, would come to light. Underlying all this would be the basic values of the culture—what people live, struggle, and die to attain. Without question these agents would have learned that general acceptance of the practices would be attained more quickly if certain groups or individuals were motivated to adopt them than if others were so motivated. Sometimes the class or caste structure would be considered important in the plan. It would, of course, be obvious that that which was successful as a motivating force in one community would not work in another. No doubt it would be found that these practices could not be introduced in some communities before other changes had been made. Perhaps in a given community it might be decided

that if the workers designed a means through which religious or other leaders would make the new practices the righteous thing to do, it might be adapted. In certain cultures the practice might be made a prestige item or symbol of class which others would attempt to practice, because it "was done by the best families." Many other types of motivation would be pertinent. The important fact to be stressed here is that, if these 20 county agents agreed upon a unified plan for the introduction of one new practice in one community, the experience would contribute to the body of knowledge in the field of agricultural extension techniques, which is gradually growing.

The Case Approach Whether Abroad or at Home Will Contribute to Extension Methodology

In order that this experience make such contribution, it might be recorded as a case. If so, a procedure similar to that followed in medicine and psychiatry would be followed; that is, the accurate recording and study of cases, including symptoms, diagnosis, and treatment. Or, the procedure might resemble the military-science approach whereby principles are taught by analyses of battles. The objectives to be attained would be clearly set forth, and, if these changed, the reasons for and the sequence of developments respecting these changes would be noted. Such objectives would be included in the plan, which would be analyzed as a living thing during the time the action proceeded. All pertinent factors in the situation, including the fore-mentioned organizational structure of the groups, as well as physical and other factors, would also be presented as a basis for the plans of operation. This would include all available facilities and elements that could condition the outcome of the action, both those counted on to implement the action and those that might do the reverse. After the attempt to introduce a given practice, the results of the plans, reasons for failure or success in attaining the objectives, would be carefully presented. An experiment in the introduction of a cultural practice into a foreign culture, or an attempt to introduce a practice here in the United States, when thus recorded, would be useful in deriving principles to be followed by agents who might be sent to any part of the world.

What Is a Perfect Extension Plan and Perfect Execution of It?

In extension planning, if the original plan was correctly worked out, the situation would be carefully and accurately described. It would include the conditions, that is, the class structure of the people in the communities, channels of communication and pertinent attitudes of the people, biological and physical factors. It would also include an adequate description of the means, such as demonstration procedures, posters, motion pictures, and how they were to be used to meet these conditions and accomplish the objectives originally set. Of course, few plans and few executions of plans are perfect. It is difficult to know just which elements in the situation will hinder and which will implement the attaining of the objectives. Once the situation is clearly understood, the immediate objectives may change. If the long-time objectives are better diets, and the agent originally decided to improve the cattle, he may decide to work on other foods if

he learns that the cow's place in the total culture prevents rational discussion of cattle breeding.

But even if the plan is perfect, execution will seldom be perfect. The agent may not be capable of rational action. Attitudes of the people although understood by him may irk him, or he may not be able to control his temper when people fail to do what he wants them to. Again he may be perfectly rational but lack the skill necessary to put across his program.

What Is a Perfect Case?

This brings us to the matter of the "ideal" case, one which carefully analyzes both the original plan and its execution. It indicates where each was at fault; where irrationality, incompetence, and ignorance entered. If the case is well written, the reader should be able to compare the conditions that the agent thought existed with those that actually existed. He should be able to evaluate the choice of means and their use. By reading cases the agent should learn how to choose methods and execute plans in different situations. This requires careful organizing and wording of the cases to be studied. When cases are written after the outline for an extension case history, prepared by the Division of Field Studies and Training of the Extension Service, they should contribute to extension methodology.

The Schools and the Extension Specialist Can Cooperate

By

IRVING LORGE, *Division of Psychology, Institute of Educational Research, Teachers College, Columbia University*

Under the leadership of the Extension Service, farmers have been encouraged in developing increased ability in managing the farm, in marketing farm products, and in conserving soil and other natural resources. Farmers have also been encouraged to develop favorable attitudes to farming as a way of living, and to the interrelations of farming to national and international trends. Rural homemakers have been encouraged in developing increased ability in homemaking, in home management, in understanding child development, and in applying the principles of nutrition. Rural homemakers have also been encouraged to develop favorable attitudes to personal development, to the relationship of social and economic factors to farm, home, and family life, and to the use of leisure time.

The objectives of the Extension Service are being achieved by informal teaching procedures among adults and through the 4-H Clubs and other youth organizations. The methods of teaching have ranged from the formal classroom presentation to the more informal methods of demonstration of good practice, of providing information through bulletins and radio talks, of developing projects, and of informal visits to the farm and farm family.

The Extension Service, however, has seemed to restrict its formal educational efforts to children beyond the sixth grade. In the light of modern concepts of elementary education, there is a genuine need for utilizing the ways and means of farm and rural life to achieve the sound objectives of the Extension Service for all rural America.

Children, as early as possible, should be helped to see the importance of home life; the interdependence between the farm and the national and international scene; the value of sound practices for health such as diet, sanitation, and personal hygiene; and the appreciation of the rural way of living. These values and appreciations should not be restricted to the higher grades, for they are values for children at all levels of instruction.

From time to time, the Extension Service has voiced the fear that it is failing to reach the people who most need to change. The farm families in poorest circumstances, in more remote communities, and with the least education have not availed themselves of the opportunities for improvement. There is, however, one way in which even these families can be reached—through the rural elementary school. The Extension Service should cooperate with the teachers, supervisors, and administrators of the rural elementary school to realize its objectives for all the children, from the lowest grade upward, and all the families. Through the realization of such objectives in children, the Extension Service may influence parents and the community directly through the child, and indirectly through the school.

The rural elementary school has suffered from the domination of the traditional subject-matter curriculum, by an urban concept of education with regard to content, skills, attitudes. The rural elementary school has failed to consider the special needs of rural children, to capitalize on the special experiences of rural children, and to build on the special interests of rural children.

The Extension Service should develop instructional materials on farm living, on values of foods, on caring for farm animals, on storing foods, on farm enemies, and on topics reflecting the needs of farm children, farm families, and farm communities. The Extension Service can cooperate with the rural elementary school by helping teachers to become aware of the needs of their pupils and their communities. Conversely, the teachers can help the Extension Service to recognize or to reevaluate the needs of the community.

When materials and instruction are related to the needs of the children and of the community, the parents are more likely to become interested in helping their children to learn and appreciate what the school is doing. The school can then capitalize on this interest through stronger parent-teacher associations. The Extension Service, through the parent-teacher group, can influence more directly the adults in the community. In a few agricultural communities, the reality of the curriculum for immediate local needs has had the effect of creating a strong community bond. The mutual concerns of parents and children, moreover, have had the auxiliary effect of strengthening the influence of the school in the community.

The rural elementary school, furthermore, will be concerned with the evaluation of the efficacy of its efforts. The school will attempt to appraise its objectives, the strengths and weaknesses of its teaching materials, and its methods of instruction. Such evaluation in terms of desirable changes in the behavior of the children, in desirable adaptations by parents, and by modifications in community interrelationship will enable the Extension Service to change its objectives, or to put new emphasis on older objectives. The school, in a sense, becomes a means for evaluating not only its own efforts, but also the associated efforts of the Extension Service. Insofar as the evaluation

proceeds continuously, it will have the effect of strengthening not only the contribution of the rural elementary school teacher to the life of the community, but, in addition, that of the county farm agent and the home demonstration worker.

The significance of childhood and adolescent experiences cannot be overemphasized for adult living. By reaching all the children early, the Extension Service will have the means for establishing rapport with rural America immediately, and for maintaining the continuity of mutual interdependence in the future.

The Extension Service and the schools can pull together, therefore, in the development of mutual objectives, of teaching materials, of methods of teaching, and in the evaluation of the efficacy of their joint efforts. Of course, the mutual relationship should not be limited to the elementary school level, but rather should be effective throughout all school levels. The value in emphasizing the relationship of the Extension Service to the rural elementary school lies in the fact that through the elementary school all the children can be reached.

Principles Involved in Financing the Purchase of Family Farms

By

PAUL V. MARIS, *Director of the Farm Ownership Division, Farm Security Administration, United States Department of Agriculture*

The principles outlined here appear to have two relations to the general theme of this conference:

1. The most satisfactory communities in which to carry on programs of informal adult education or extension teaching are those made up of home-owning, family-type farmers. Such farmers have an incentive for improving their farms and their homes. They are interested in everything related to the welfare of individual farm families and of the communities in which they are located.

2. Persons engaged in carrying on educational programs among the farm people of different countries should be familiar with basic principles involved in bringing a satisfactory type of farm ownership within the reach of farming classes. This may loom as one of the most immediate and most vital problems to be dealt with in war-torn countries.

Compared with many other countries, however, the United States has had limited experience in administering legislation designed to facilitate the purchase and ownership of family farms by their operators. The significant features of developments of this nature in the United States should, therefore, be compared carefully with those of older programs in other countries.

Historical Background

From the beginning of our national existence down to the present, legislation enacted by the Congress of the United States has been designed to foster and encourage family farms owned in fee simple by their operators. This has been needed to counteract influences continuously in operation toward concentration of large landholdings in the hands of a few and the growth of large nonlandowning farm-labor-tenant and sharecropper classes.

On November 16, 1936,²⁵ President Franklin Delano Roosevelt appointed a committee to report "... on a long-term program of action to alleviate the shortcomings of our farm tenancy system." In outlining the duties of the committee, he said in part "The rapid increase of tenant farmers during the past half century is significant evidence that we have fallen far short of achieving the traditional American ideal of owner-operated farms."

In 1937 the Congress passed an act entitled the "Bankhead-Jones Farm Tenant Act," which incorporated many of the recommendations of the President's committee on tenancy. Since that date loans aggregating more than 200 million dollars have been made to enable more than 35,000 farm tenants, farm laborers, and sharecroppers to purchase family-type farms.

Use of National Credit To Create Loan Fund

The financing of a program national in scope and magnitude requires a large loan fund. One basic feature of the Farm Tenant Act of 1937 is, therefore, that the credit of the National Government is utilized to create such a fund. If individual loans are safeguarded in the manner hereinafter outlined, the credit of the Federal Government apparently may be used with small probability of loss, but this assumption has not been subjected to the test of a severe depression during which farm incomes are reduced to extremely low levels.

In other countries there should be an equitable basis for distributing a national loan fund to the respective civil units of government corresponding with States in the United States. Farm population and prevalence of tenancy is the basis used in the Act of 1937.

Terms of Loans

Under the act, loans are made for periods of 40 years. The interest rate is 3 percent. It would require annual payments at the rate of 4.326 percent to retire both interest and principal in 40 years. But annual payments are permitted to fluctuate in conformance with the provisions of a variable payment agreement between the borrower and the lender. Under this agreement the net cash income is the factor which determines the amount to be paid annually. In good years payments are large. In unfavorable years they are small or may even be nothing at all. The aim is to build up a margin of safety in good years to tide the borrower over bad years when it is hard to make payments. The loan for the purchase of the farm may be for as much as 100 percent of the value of the farm.

If a borrower also needs credit for the purchase of livestock, tools, and equipment, or to finance operating costs, he must obtain a separate loan or loans for these purposes. These loans are secured by chattels rather than real estate, and run for periods of time related to the useful life of the goods purchased with the proceeds of the loan.

Administrative Organization

Central administrative control is vested in a national administrator who formulates broad policies, establishes operating procedures, and

²⁵ NATIONAL RESOURCES COMMITTEE, SPECIAL COMMITTEE ON FARM TENANCY. FARM TENANCY, REPORT OF THE PRESIDENT'S COMMITTEE. 108 pp., illus. 1937.

renders an account of his stewardship to the Congress of the United States. Under the national administrator and his staff are regional and State administrative units forming connecting links with some 3,000 counties in which actual lending operations occur. Approving applicants to receive loans, determining the adequacy of farms purchased by borrowers and the fairness of prices paid for farms, and judging the character of improvements to be placed on them are responsibilities of county employees and county committees of farmers working in a sympathetic and democratic manner with the borrowers.

A cardinal feature of the administrative organization is the county committee consisting of three farmers in each county. No person can receive a loan who is not approved by this committee. No farm can be purchased at a price greater than this committee determines to be its value. Since the committee represents the public interest, it is appointed by the administering agency (State FSA director). There is a sharp distinction between routine administrative activities handled by full-time employees and the certification of applicants and farms by committees. Committees exercise great influence. They make practical judgment and knowledge available, but they operate within the framework of basic enabling legislation and established administrative policies. They are paid a nominal amount for their service (\$3 a day when actually on duty) and a flat amount in lieu of expenses. They serve a 3-year term, with one member retiring each year. Retiring members are ineligible for reappointment until after a lapse of 1 year.

Supervision

A loan for the purchase of a farm on which little or no down payment is made is practical only when it is soundly made and wisely supervised. Supervision is provided by a full-time employee of the administering agency, usually an agricultural-college graduate. Regardless of his preservice training he also should have intensive induction and in-service training in order to render assistance to borrowers in a helpful, acceptable, and democratic manner. Every loan is based upon a plan of operation, including a budget of probable income and expenses. Borrowers are required to keep records of income and expenses in books furnished by the administering agency. Most borrowers have learned that the supervision is in their interest. Properly rendered, it results in the adoption of good farm- and home-management practices and good money-management practices by borrowers. It is so conducted as to encourage initiative, resourcefulness, and self-reliance on the part of the borrower and is tapered off as he gains in his ability to stand alone.

Standards

In order to achieve national objectives, both maximum and minimum standards need to be fixed as to sizes of farms and character of improvements upon farms. These standards vary by States in different parts of the United States, and presumably they would vary in different countries of the world. Countries with limited land resources in relation to their farm population may be compelled to limit the size of individual farms to such an extent that income possibilities will be definitely restricted. Naturally, such farms cannot support expensive dwellings or high living standards. Because of the direct relation

between the producing capacity of farms and the standards of living they can maintain, it is essential to adopt standards providing for the most adequate size farm for each family that the resources of the country will permit.

Debt Payment Record of Borrowers

As of December 31, 1943, 30,603 borrowers had principal and interest payments falling due on their loans. The amount which would have been due from these borrowers paying at the rate required to retire their debts in the allotted 40 years would have been \$19,234,611. The amount paid, excluding extra payments, was \$28,444,633. This means that farmers who have availed themselves of loans under the legislation under discussion were, as of the end of the year 1943, \$9,210,022 ahead of schedule with their repayments. Besides this they had made extra payments totaling \$7,937,497, of which \$3,831,812 were refunds, \$4,101,685 sale of mortgaged property and advanced payments on loans by a small number of borrowers not operating under the variable payment agreement. Some borrowers are making more satisfactory progress than others. For instance, 57 percent of the borrowers were ahead of schedule by an average of \$736. Eighteen percent were merely making payments at a rate that would retire their debt in 40 years. Twenty-five percent were lagging behind by an average amount of \$209.

Those desiring to pursue further a study of the Farm Tenant Act of 1937 will find the following literature helpful:

1. Report of the President's Committee on Farm Tenancy,²⁶ February 1937. Superintendent of Documents, Washington 25, D. C. 30 cents.

2. Public Law No. 210, 75th Congress.²⁷ A reprint of the Bankhead-Jones Farm Tenant Act, Approved July 22, 1937. Superintendent of Documents.

3. Selected operating instructions and forms used in the administration of the lending program. (Prepared upon request for persons especially interested and able to make profitable use of such material. Not for general or widespread distribution.)

4. Data on number of loans made, how loan funds were expended, and data on financial progress of borrowers. (No reserve supply; prepared upon request for especially interested persons in limited quantities.)

The Optimum Development of Older Rural Youth

By

HOWARD Y. McCLUSKY, *Assistant to the Vice President,
University of Michigan*

Older rural youth occupy a significant and unique status in modern society. Slightly more than half remain on the land and (since few city youth take up farming) inherit the future of our rural economy; in this they are enormously significant. Slightly less than half are a "migrant surplus"; in this they are equally unique.

More about the migrant surplus. They are surplus because to 100 adults there are more rural than urban youth, and there are more rural youth than the farms can accommodate in the present stage of operation. The surplus are migrant because they seek the city for employ-

²⁶ See footnote 18, p. 108.

²⁷ UNITED STATES CONGRESS. THE BANKHEAD-JONES FARM TENANT ACT. 75th Cong., 1st sess., Public 210 [H. R. 7562], 12 pp. 1937.

ment and fill the gap caused by the declining population of urban areas.

At the same time our rural economy has notoriously defective facilities for rural youth. Its churches too often fail to illumine the spirit of youth. Its recreation is too often tawdry commercialism. Its health services are too often remote or incompetent. Its libraries are too often inadequate or nonexistent, its teachers too often underpaid and poorly trained, and its schools too often antiquated and unfit. Not always but too often!

Older rural youth then, appear to be the most neglected human resource of modern life. But already, successful practice is pointing the way to their development.

As stated before, a large number of rural youth leave the farm to find work in the city, while the remainder stay on the job in the country. But in any given instance no one knows, nor can anyone select in advance, the particular youth who will go and the one who will remain. Effective programs must, therefore, develop in rural youth a capacity for versatility because their future involves the possibility of engaging not only in two general ways of making a living, farming and nonfarming, but also in two ways of life, rural and urban.

Optimum programs for rural youth are life centered. This involves first of all the development of economic competence. It also requires the cultivation of civic responsibility, effectiveness in human relations and those qualities of mind and spirit that give value and purpose to life. These goals are obviously more significant than college entrance and earning money. They are most nearly attained by enriched and expanded facilities for education and guidance in schools and other youth serving agencies.

Optimum programs for rural youth make full use of the spiritual, human, and material resources of the rural environment, and augment these resources. There is beauty in woods, stream, and field, and in the ebb and flow of seasons. There is deep satisfaction in the successful struggle of man to harness the intransigence of nature. There is wonder in the processes of growing things; there are ethical lessons in the sequence of seedtime and harvest; and there is strength in the neighborliness of the rural community and farm home. All these good things are celebrated in the best programs of schools, churches, farm organizations, and other rural agencies. Someone has said that the rural environment is a million-dollar laboratory for education. On all sides rural youth may find significant material and experiences that have but pale substitutes in the city or are nonexistent there.

Optimum programs for rural youth are building rural America. Rural America has suffered from an unbalanced economy since about 1910. Moreover, soil and timber are being constantly depleted by waste, destruction, and erosion. Strong programs face these dangers squarely and equip and inspire rural youth to conquer them.

But advanced practice shows that youth are most effectively developed when they contribute vigorously to the life of the community. In peace, the contribution of youth is secondary, in war it is primary. We cannot therefore escape the question: If youth are important for war, why are they not equally important for peace? This question can only be answered by a huge participation of youth in enterprises full of significance to the community.

This participation is obtained in two ways. One method consists in taking older rural youth into adult projects under wise and friendly adult leadership. The other involves the formation by youth, with adult assistance, of their own groups for the solution of significant problems of community life. The experience of the 4-H Clubs, the youth sections of farm organizations, and the project of the American Youth Commission are solid confirmation of both procedures.

The needs of rural youth and the resources to meet those needs are multiple. The welfare of rural youth requires the planned coordination of many agencies. Its scope is too wide to be adequately served by any single agency. This does not mean that each agency must wait for every other agency before undertaking its portion of the general task. The separate operation of single agencies is better than the inactivity that might result from a reluctance to perform in advance of over-all planning. In fact, some agencies such as agricultural extension have such a monumental stake in the welfare of rural youth that they must advance vigorously in this field. But an adequate program for rural youth is a product of the collaboration of every resource known to a community. As a minimum this requires an agreement among germane groups to cooperate at the community level in behalf of rural youth. Lacking this coordination the best any agency can do will be fragmentary and inadequate.

Older rural youth are among our most potent resources. Now and in the days to come society will need their optimum contribution. But society cannot expect the best from them unless they have a chance to develop their best. To this end society must be sincere and heroic in extending the programs experience has shown to be most effective in the development of older rural youth.

Need for More Women Workers in Extension Education²⁸

By

BOLESŁAW J. PRZEDPELSKI, *President of the United Chambers of Agriculture of Poland*

Because of my poor English, I hesitate to talk to you, but the principle I desire to mention seems so important to me that I am going to take advantage of this opportunity.

When we began, many years ago, to organize our extension service in Poland, we started with men only. Quickly we noticed that we touched only part of our rural life. Many fields such as hygiene, sanitation, homemaking, and folklore did not receive the proper service. And, what was most important, the cultural life was not effectively realized.

We analyzed our service and then understood that extension should involve all parts of rural life. Who creates this rural life? The family. Of whom does this family consist? Of men, women, and children. Therefore, they all should take part in the extension service. Only in this way could we reach all elements of rural life. Consequently we began to work with women. In the beginning they were advisers, but step by step women started to take equal part on all levels of extension work—county, state, and federal.

²⁸ Statement read at the closing session of the Conference.

My purpose is to spread the idea among the nations that women should take part in all countries, on all levels of the extension system equally with men—from the bottom to the top. They should be not only advisers but partners as well. Only in this way can the extension service usefully serve all elements of rural life.

During this conference I have learned that in many countries women's service is pretty well advanced, but in others, not even a start has been made.

To make my idea clearer, I would like to use that well-known method in extension work—demonstration. Taking the group in this auditorium as an example, I would like to see women not only in the ranks of representatives, but among the chairmen as well. I hope that in the near future the women's service will expand in the extension service of all countries on levels corresponding to the county, state, and federal levels here and in international extension too.

A Working Philosophy of Extension

By

C. B. SMITH, *Collaborator, Extension Service,
United States Department of Agriculture*

For most people who make their living from the soil, farming is a strenuous life, a struggle with stubborn soils, changing weather, plant and animal diseases and insect pests, high interest rates, and fierce competition. Most farm incomes are low. The farmer and his family for the most part must practice thrift, serve long hours at physical work, and deny themselves many of the conveniences and comforts of life.

Agricultural extension work is instituted among nations by peoples and government to help make rural people—owners and tenants alike—efficient, prosperous, self-reliant, proud of their occupation; progressive, cultured citizens with a love of country in their heart; to produce the maximum amount of food and fiber needed by the nation, and to maintain the productivity of the land forever.

Extension in the United States is financed, planned, and executed by Federal, State, and county Governments and rural people all cooperating, and is known as the cooperative agricultural Extension Service. Its teaching program is designed to help people help themselves.

The agricultural extension program undertaken on an individual farm, in the farm home, or in a community succeeds best when it meets the felt needs of the farmer, his family, or the people of the community.

The program should be practical, relatively easy to apply, and must result in satisfaction to the farmer as well as to the government. Begin in a small way with simple matters and enlarge the work as agents and people acquire experience and vision together.

The large purpose of the early extension work in the community is to establish faith of the people in the extension agent himself—that he knows his business, has something worth while to bring them, is a man of integrity and wants to be of service to the people. People follow the recommendations of the leader if they have faith in him.

Governments undertaking agricultural extension work are presumed to have some agricultural knowledge and agricultural facts, based on research, to extend. It is the business of government to

develop trained leaders for this work and to put in their hands facts for extension pertinent to each community of the state. This means that preceding or coincident with the development of extension in the nation should be the development of schools and colleges to train competent leaders, and experiment stations to develop agricultural and home economics facts for both teaching and extension. Teaching, research, extension should all go along together.

In extension program building in any community, it is highly desirable to take into consideration the successful practices and experiences of the local people themselves. They have much to contribute to the building of an extension program based on their local knowledge and experience. Successful extension agents do not ignore local knowledge. It takes trained extension agents to find and utilize successful local practices.

Extension agents in their study of local conditions often discover problems requiring research studies before extension work, looking toward their solution, can be offered. The agents carry these problems back to the State experiment station or the National Government for solution. That, too, is a function of Extension.

The most effective agents study their job and the results of their efforts among local people to learn what best to do and check up on their own effectiveness. Local agents, farm raised and technically trained, have their office and live among the people they serve and are one of them. This has been one of the main reasons for much of the success of agricultural extension work in the United States—men and women agents to help the farmer with his agricultural problems and income, and to help the farm woman with her problems of health, nutrition, home building, family relationships, and cultural life.

Both men and women agents have found it advantageous in the United States to carry on their extension work in the community through voluntary efforts of the boys and girls 10 to 20 years of age, as well as with adults. With proper encouragement and guidance, farm boys and girls make effective demonstrators of better practices in both the home and on the farm. Extension work with youth is probably the most popular phase of agricultural extension in the United States.

A local organization of rural people, both men and women, to work with the extension agents stationed among them, to help finance, plan, and carry out the extension program, has proved very helpful in the United States. Such an organization should have its own officers and handle its own business. The local extension agents may give counsel to the association but should not hold office in it.

Local extension agents may at the outset deal with individual farmers and farm families, but more and more as the people come to have faith in him he deals with the leaders selected to help the agent carry on the work. These leaders are usually referred to as local leaders. They serve without pay and multiply manifold the amount of extension work that can be carried on in any community. In this way extension helps to build rural leaders.

Teaching by means of actual demonstration on the farm or in the home or community constitutes much of the strength of extension in the United States. The agent gets the farmer, the farm woman, or the farm boy or girl to do the work, keep records, make a report, and explain the work to others. In this way farmers grow in their own importance and in the respect of their neighbors.

Usually employment of an extension agent who is a native of the community is not desirable. He may be partial in his service to his relations and friends. A public servant works with all people alike. The effective extension agent does not talk down to his constituents but treats them as colleagues and equals.

Extension best accomplishes its mission when it sends rural men, women, and youth singing down the road of life, because it brings to them help, service, an enlarged outlook, and points the way to larger accomplishment.

Suggested Approaches to Education for Improvement of Homemaking Practices

By

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of Agriculture*

The Conference on Food and Agriculture recommended that each nation accept the responsibility to plan for its own people the food supplies needed for life and health. If these foods are to build individual and family health, they must be used in accordance with the requirements for good nutrition. Individuals must be helped to develop good food habits and homemakers taught to select the right foods from available supplies and prepare and serve palatable meals planned to meet the needs of their own family groups. So governments are planning education that will give to all individuals an appreciation of the importance of good food habits to help women and girls in meeting their traditional responsibility for the selection, preservation, care, cooking, and service of the family food. Rural homemakers assist in the production of family food supplies.

Feeding the family is only one of many home responsibilities of women, but because of the close relation of food to family well-being and satisfaction, it offers a good place to begin education for the improvement of homemaking and family living. Extension and other informal teaching methods have been analyzed to set up basic principles that will be useful in guiding other countries in developing educational work for the improvement of homemaking.

Extension work in home economics, often called home demonstration work, applies results of research in meeting some of the many problems faced by rural homemakers. In doing this the agent works with and through all existing rural organizations.

Home demonstration work, like other informal types of education, owes its success to the fact that information is given to individuals and groups facing real problems, and at the time it is needed in the solution of these problems. As the name "home demonstration" indicates, these facts in homemaking are taught by demonstration under home situations. Frequently these demonstrations are given by selected community women, with the advice and help and under the supervision of the specialist, who steps in only when needed. The home environment and problem-solving situations motivate learning in this teaching situation.

The improvement of homemaking must start where the people are. Suggested changes must be gradual, must be accepted by the individual

or group as desirable, and must be attainable. Any educational program should be cooperative and aimed to help women help themselves, with the teacher or agent keeping as much as possible in the background, except when needed. Insofar as possible, the work should be organized under the leadership of a local homemaker who knows the needs and resources of the local community. She should be able and willing to marshal and use the help of other homemakers, each contributing the particular skill in which she excels.

The following suggestions are offered for the development of home-making education:

1. Objectives.

a. To build up the fullest possible cooperation and understanding of the populations in use of the supplies and services available to promote better nutrition and healthful, satisfying conditions of living and so serve as an important factor in decreasing the high death rate of all groups, but especially of infants and children, from tuberculosis.

b. To develop and train existing leadership, community by community, in the important job of improving the conditions of home living and gear this group into an over-all national effort to build a level of living for the country based on its tradition and culture.

c. To interpret for those who will be placed in charge of government programs the ways in which existing educational agencies can contribute to the building of a coordinated program for improving home living.

2. Steps in the program.

a. Women and girls, community by community, are given an understanding of the basic foods required for a good diet. They are shown ways of combining the available supplies in palatable meals that conform as nearly as possible to the food patterns of the different groups in the country and are realistic in terms of the available community supplies, the family situation, and the total economy of the country.

b. Rural families are guided in the collection and use of any wild fruits, leaves, or roots usable as food and, where space is available, in the planning and production of food supplies to supplement commodities available or likely to be available for distribution or purchase.

c. Methods of care of foods in the home, so as to minimize wastage or spoilage, are taught and the women encouraged to use methods of preparation that maintain nutritive value, with due consideration to the basic food habits, usual ways of preparation, and the equipment available.

d. Simple methods of food preservation that may be put into practice at home or in small cooperative groups are demonstrated.

e. The experience of women in the use of fibers and textile materials available to them in providing comfortable clothing is organized and extended in keeping with the cultural background of the group. Community industries will be developed, when possible, to provide more adequately in the future the requirements for adequate clothing.

f. Help is given women in the sanitary care of clothing and housing to the end of improving the health, comfort, and living of the individual family members.

g. Community members are helped to see how cooperative and governmental facilities can be used to safeguard and improve living and provide services individual families or even communities cannot get for themselves.

h. Community representatives bring back to the responsible agency suggestions as to any desirable changes in distribution plans for goods and services and information as to home equipment and supplies needed in the homes, to guide the development of industry as it gets under way.

Sources of Material in the United States for the Use of Those Interested in Homemaking Extension

By HAZEL K. STIEBELING,

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of Agriculture*

Although homemaking is often spoken of as an art, home economics is a science as well as an art. By applying science to household problems, the nutritionist can help the homemaker with the selection and purchase of the family food, the household economist can help her with family budgeting and buying problems, the textile expert can help her choose durable materials and care for them in a way to save wear and tear upon the fabric. The food specialist, the chemist, the bacteriologist know the techniques of handling, storing, cooking, canning, or otherwise preserving food to bring out its best qualities and to protect it against spoilage. The sociologist and the psychologist can supply information helpful in maintaining happy human relations within and without the family.

Homemaking teachers in extension work keep abreast of subject-matter developments not only through formal post-graduate study, but through continuous reading of technical journals reporting research in the various sciences, and study of current books, including home economics textbooks, many of which summarize and interpret the latest research findings directly applicable to family living. The number of excellent books of this kind has increased markedly in recent years. Unfortunately few current lists²⁹ are sufficiently discriminating to assist the would-be purchaser in making desirable selections. Examination of various library collections is usually necessary.

Because the welfare of the Nation depends so largely upon the successful homemaking of its families, the Government has taken a conspicuous part in the development of home economics in the United States. The history of this development is interwoven with the history of agricultural education and research, in part perhaps because home economics was developed in land-grant institutions to provide homemaking education for girls as the counterpart of education in agriculture and the mechanical arts for boys. The Government has encouraged not only the extension and classroom teaching of homemaking and the general dissemination of information on home economics, but the development of research in this field.

The research program of the Federal Bureau of Human Nutrition and Home Economics is an outgrowth of scientific work on nutrition and household food utilization begun in the Department of Agriculture more than 50 years ago. In response to the need of homemaking and teaching groups, the range of work was expanded when the Bureau of Home Economics was organized in 1923 to include other phases of the subject—family economics, textiles and clothing, housing, household equipment, and home management.

Shifts in the national picture have brought changes in emphasis in the Bureau's research program. Prosperity, depressions, wars—

²⁹ WISCONSIN HOME ECONOMICS ASSOCIATION, COMMITTEE ON HOME ECONOMICS EDUCATION THROUGH LIBRARIES. *HOMEMAKING: A LIST OF BOOKS PUBLISHED BETWEEN 1938 AND 1943.* Leaflet [8] pp. Madison, Wis. Order from Traveling Library Department, State Office Building, Madison 2, Wis.

all these have been reflected in the type of research projects undertaken and completed during various periods in the Nation's history. But even more have been mirrored the changes that have slowly evolved in family living in this country.

For example, one of the significant changes over the years has been the partial shift in the economic role of the homemaker from producer to consumer. The housewife used to process or manufacture the family's supply of food and clothing, household linen, carpets and rugs, even the lights by which the work was done when daylight failed. Now she buys most of these things. Hence, knowledge of quality and the ability to judge good quality have become of prime importance to her. The Bureau therefore gives more attention now than in its early years to studies of the characteristics in consumers goods that indicate quality and performance value.

The research of the Bureau, as well as much of that carried on by State agricultural experiment stations, is devoted to the problems of the home. The Department of Agriculture and the cooperative research and extension service groups in the States have come to be relied upon as a principal source of unbiased information in this field.

Technical and popular bulletins, as well as radio and press releases, bring the information to the public. From the date of its organization July 1, 1923, to June 30, 1944, the Bureau of Human Nutrition and Home Economics had issued a total of some 90 million copies of technical and popular printed publications. In addition, slidefilms, lantern slides, charts, and loan exhibits for use in group teaching are prepared in cooperation with the Extension Service.

The Department of Agriculture is not the only governmental agency from which assistance can be obtained for homemaking extension programs, however. The Children's Bureau of the Department of Labor distributes bulletins and leaflets pertaining to child care and maternity welfare; and the Public Health Service, on health matters. The National Bureau of Standards conducts research on materials, many of which are used by the ultimate consumer and are directly related to family living. The Office of Education, through its Home Economics Education Service, prepares publications which, although primarily intended for classroom teachers, are also helpful to extension workers.

And of the nongovernmental agencies, the most noteworthy is the American Home Economics Association, Washington, D. C., the national professional organization of home economists. In its *Journal of Home Economics*, a monthly, are published scientific papers as well as matters of general interest to homemakers and professional home economists; its Consumer Education Service, a résumé of current information relating to consumer buying; and the leaflets and books it distributes—all these—are evidences of the leadership in the profession which that Association has maintained since its organization 35 years ago.

Teaching Through Cooperatives

By W. B. STOUT, *In Charge,*
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The membership of cooperative associations in the United States is made up predominantly of small operators and other people of moderate and low incomes. They have common interests and common problems. They are individually and collectively interested in making financial savings on goods and services purchased, or netting greater returns on the products they have for sale. Members of cooperative associations come from that substantial class of our population which largely supplies the motivating force of the Nation and furnishes stability to our democratic form of government. Cooperative associations are, therefore, an excellent medium through which practical, constructive educational work can be conducted to get tangible results.

The Federal and State Extension Services in the United States have worked with cooperative leaders and their membership since the inception of this type of organization. Up to the present most of the training and teaching work the Extension Service has conducted with cooperatives has centered on the economic aspects or business phases of their programs. Assistance has been given in organization problems, leadership training, keeping membership informed, developing proper attitudes and responsibilities of members, determining and meeting market demands, solving managerial problems, establishing sound credit and financial policies and programs, installing adequate accounting systems, perfecting new market contacts and outlets, meeting competition, and supplying information otherwise helpful to cooperatives in conducting their operations on a sound basis.

But members and officials of cooperative associations are interested in broader and more fundamental programs and problems than those pertaining to their own operations and financial gains. They are interested in local, national, and international developments that affect their well-being as individuals, and that largely fall outside the sphere of operations of their cooperative association. They are anxious to get the best information available on community improvement and development, principles of government, international trade, tariffs, taxation, trade barriers, regional and international competition, governmental programs and policies, and other topics about which active citizens should be informed.

In conducting educational work with cooperatives, extension personnel on the Federal, State, and county levels, have endeavored to use those methods and procedures that seemed best adapted to the various needs and objectives to be accomplished. Much of the teaching work has necessitated contacts with individuals and participation in committee work with association officials, leaders, and boards of directors. In this connection extension workers have served in an advisory capacity which has frequently required assembling and presenting information resulting from surveys and research for the consideration of the officials and leaders involved.

Organized educational and training work with cooperative associations and State and county cooperative councils is usually conducted

through formal training schools, study groups, and discussion meetings in which information is presented and discussed by the group assembled. This is a democratic process which permits free expression and thinking on the part of individuals, creates understanding, and provides the basis for formulating sound decisions and mutually accepted policies. Many cooperative associations contribute greatly to educational work of this kind through the active participation of their trained personnel and officials and by permitting their associations to be used as laboratories for demonstrational purposes. Cooperation of this kind adds a practical aspect to teaching, which might be otherwise lost, and permits interested groups to study cooperative activities on an actual-operations basis.

Assistance to cooperatives and their membership has necessitated much survey, analysis, and research work along with the preparation of large amounts of printed material. Printed and mimeographed bulletins, circulars, and current releases, containing pictures, graphs, and statistical data with explanations have been supplied and are in general use by cooperative associations and their members. The radio has also come into common use in broadcasting information of interest to cooperatives. Market reports and general conditions prevailing on commodity markets along with related information are broadcast daily. These may be classified as service types of activities, but possess great educational value and are effective in accomplishment.

For more than a quarter of a century the Extension Service has gradually expanded its services to cooperative associations until now they are one of the principal media through which economic educational information is extended to rural people. During 1943, State and county extension workers assisted 1,411 new cooperatives to organize and rendered assistance to established associations having a combined membership of 1,534,392, for whom these associations purchased and sold products valued at \$1,025,000,000. Teaching and training work through cooperatives is expected to continue to expand in the future as additional trained personnel becomes available and conditions permit. Educational work through organized groups of this type has been much in demand, greatly appreciated, and very effective.

The Cultural Approach to Extension Work

By

CARL C. TAYLOR, *Head, Division of Farm Population and Rural Welfare, Bureau of Agricultural Economics, United States Department of Agriculture*

Extension programs are organized and carried out for the purpose of accomplishing change. The established organizations, habits, and attitudes of the people for whose assistance the programs are designed are the strongest conditioning factors in the processes of the changes to be effected. They facilitate or impede the processes of change and thereby facilitate or impede the programs. A specific understanding of them in each area is therefore a prime requisite to planning and carrying out any program. Merely to know that such an understanding is necessary is not enough. The understanding must be had in considerably specific detail by any outsider who is working in any local area. In simple terms this is the cultural approach.

Culture consists in the habitual and systematized ways by means of which people make a living; in the social organizations into which people have systematized their relationships with each other; and in their ideas and beliefs about and attitudes toward their ways of making a living and their social relationships. The cultural approach to any people and to their problems requires only that the established and sanctioned ways of life of the people be understood and their organizations and leaders be utilized in initiating and carrying out programs. To any businessman, educator, or intelligent layman the cultural approach is what they probably would call the common-sense approach.

Because extension programs must come down to local areas from the upper levels of the class structure of the national society, it is important to know what this class structure is and what channels of communication there are up and down that class structure. Necessary also is an understanding and thorough appreciation of the working relationships and communication techniques between the various classes. It may be possible to alter their techniques somewhat, but difficult to alter the channels of communication, and probably utterly impossible to alter the class structure itself. It is, therefore, necessary to know what established classes are and who constitute them; the functioning relationships of each class to all other classes; and what each class thinks its role and the roles of other classes are in the economic, social, and political life of the whole society. These things are just as much a part of the national society's culture as are the ways of life in local areas. They are already fixed, and it can be rather definitely assumed that at least some of the people are vitally concerned in maintaining these fixed relationships.

Even after a person is convinced that he must enter a local area through channels that come down to that area from the top of the national social structure, and convinced that he must use the organization and the leaders of the people in the local areas, he must be further convinced that this general knowledge is not sufficient. To generalize about the folk ways and folk thoughts of all people is no more possible than to generalize about all soils, all plants, or all animals. The ways of doing and thinking of each people must be understood in terms of that people. What is common knowledge and common sense to one people isn't sense at all to other peoples. One people does not like the ways of life of other peoples, believes that they are wrong, and feels quite sure they would be uncomfortable if they practiced such queer ways. They like their own habits and customs, believe in their own ideas, and feel at home and comfortable working in the groups and under the leaders whom they know and trust. In this they are exactly like we are. Furthermore everlastingly necessary is the knowledge that these subtle psychological facts concerning beliefs, attitudes, and faiths constitute the cement which holds any culture together. Without them the organizations and culture of a people would fall to pieces.

When the extension worker enters a foreign nation or culture, with a sure knowledge of his subject matter, he will discover his is not the first program that has traveled over the channels of communication from the top to the bottom of that nation's class structure. Governmental, educational, religious, health, and other programs will have been promoted in the past and will have established definite channels and techniques of operation. He will probably immediately discover

that the channels are somewhat different from those he knew in his own country and the techniques by which the classes deal with each other are very different from those in his own country. He will have no capacity to construct new channels of communication. He probably will be compelled to start with the techniques of communication already established, use them as best he can, and improve them as time goes on.

The cultural approach, therefore, requires that the extension worker know the three following things: First, the channels and techniques of communication up and down the class structure of the national society and the local area or community in which he works; that is, know how and by what processes and methods ideas travel from the top to the bottom of the class structure and how the needs and aspirations of the people at the bottom of that structure travel to the top and get recognition. Second, he needs to know the ways of acting and thinking of the local people whom he seeks to serve; what their established relationships with one another are, their pronounced prides and prejudices; and who their trusted leaders are. Third, he needs, of course, to know his subject matter so as to be able to demonstrate the contribution he has to make. I state these three things in the order which the cultural approach requires, because in obtaining an opportunity to teach and demonstrate what he knows the worker must go through whatever group constitutes the class at the top and travel downward through their established channels to the local people. Once he has reached the local people he needs to know their ways of doing and thinking before he will know how to teach them what he knows about his special subject. There is nothing "highbrow" or mystical about this cultural approach. It is an approach through the established ways of life of the people who are to be served. All it says is "use the common sense of these people as the starting point for improvement."

4-H Club Work as an Integral Part of the Extension Service in the United States

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4-H Club work in the United States is a voluntary, specialized educational enterprise for rural young people conducted as an integral part of the general extension organization by the United States Department of Agriculture, the State colleges of agriculture, and the county extension organizations, cooperating. As such, it shares in the objectives common to all educational institutions and movements in its concern with the development of individual abilities and capacities for learning, intellectual and moral character, qualities of effective citizenship, and the like. Its distinctive educational objectives are directed toward rural boys and girls and include the following:

1. To help develop desirable ideals and standards of farming, homemaking, community life, and citizenship, and a sense of responsibility for their attainment.

2. To afford technical instruction in farming and homemaking, in order that skill and understanding in these fields and a clearer vision

of agriculture as a basic industry, and of homemaking as a worthy occupation, may be acquired.

3. To provide an opportunity to "learn by doing" through conducting certain farm and home enterprises and demonstrating to others what has been learned.

4. To teach the value of research and develop a scientific attitude toward the problems of the farm and the home.

5. To train in cooperative action to the end that the boys and girls may increase their accomplishments and, through associated efforts, better assist in solving rural problems.

6. To develop habits of healthful living, to provide information and direction in the intelligent use of leisure, and to arouse worthy ambitions and a desire to continue to learn, in order that fuller and richer lives may result.

7. To teach and to demonstrate methods designed to improve practices in agriculture and homemaking that farm incomes may be increased, standards of living improved, and the satisfactions of farm life enhanced.

Organization

In each county, an extension agent, under the general direction of the State extension service in cooperation with the Extension Service of the United States Department of Agriculture, supervises the organization of 4-H Clubs. He guides the formulation of the club program for the year, supplies State and Federal bulletins, consults with members of the county 4-H Club council or committee and the local club leaders, conducts such gatherings as county 4-H camps, club picnics, round-ups, exhibits, fairs, and achievement days; and evaluates the results at the close of the year.

A county 4-H Club council or committee is usually an important part of every county extension organization. Such a council or committee may be composed of local leaders, parents, experienced members, and farm people interested in the development of the 4-H Club program. Under the guidance of the county extension agents, such county club councils or committees usually study the needs of the county, help to plan county 4-H activities, lend support to the work of local leaders and perform other duties as situations change and needs arise.

The local volunteer leader is regarded as important to the whole 4-H program. This person usually is an outstanding man or woman resident of the community interested in young people and willing to spend some time in helping the members of a club to plan their own program for the year. All such leaders are expected to attend regular club meetings; train members in various 4-H activities; visit the homes of members to see how their demonstrations are progressing; give advice and encouragement when needed; accompany members to club events outside the community; and assume responsibility in relation to members' general group activities.

In almost every 4-H Club, certain minimum organization goals are set up. In a number of States, they are as follows: (1) A membership for each club of at least five working on the same enterprise; (2) a local leader in charge during the club year; (3) a local club organization, with necessary officers and duties as prescribed in a club constitution; (4) a definite program of work for the year, de-

veloped largely by the members themselves under skilled guidance; (5) at least six regular club meetings during the year; (6) local exhibit held annually by the club members; (7) a club demonstration team, which must give at least one public demonstration in the home community; (8) training whereby each club member shall learn to judge results of the work undertaken; (9) completion of the farm or home demonstration by at least 60 percent of the members, with a final report filed with the county or State club leader; (10) an achievement-day program upon completion of the work.

When organizing a 4-H Club, young people should be led to elect their own officers, appoint their own committees, and plan their own programs. Officers and members of committees should be encouraged to assume full responsibility. Training schools for them alone may be held. Throughout, the function of the adult leader is to study the members of the group carefully so that he may skillfully guide them to adjust in a constructive way to the different situations that may arise in the group.

Probably the most important phase of the 4-H Club organization is the regular meeting, held at stated intervals at least once a month in keeping with good parliamentary procedure, and usually consisting of three parts—(1) business, (2) demonstrations and discussions in connection with the project work under way and community-improvement activities undertaken by the group as a whole, and (3) social activities.

The General 4-H Program and Its Significance

For many years in the United States 4-H members, in their organized clubs, have been planning their own farm and home programs in relation to their own interests and needs and those of the community. Problems are faced in the farm homes, the fields, the barns, the orchards, the gardens, the markets, and the various community meeting places. Solutions are sought and programs developed with all members of a 4-H Club participating in accordance with general organization procedure. Each 4-H Club member then, in keeping with the projects and activities determined, performs a worth-while piece of work, under the supervision of the local leader and county extension agent, that will demonstrate or teach the better way in homemaking or agriculture. Because of the various types of agriculture in the United States, more than 50 different phases of homemaking and farm demonstrations may be undertaken by 4-H Club members as an integral part of county extension programs.

The benefits of the 4-H Club program to the individual are varied and often far-reaching. Not every 4-H Club undertaking is a financial success, naturally, but unless some unfortunate situation occurs, the club member usually realizes profit from the enterprise. Members also benefit from their contacts with their leaders, who know how to do things; with the work of one another, which frequently involves acquiring added interesting information; and with men and women of affairs while participating in various 4-H events. Club work helps rural young people to gain valuable work experiences, to realize upon the opportunities around them, to feel that they have a useful part of the world's work to do. It tests their fitness for farm life, so that only those who like farming will engage in it; gives them a keen

sense of their responsibility to meet their financial obligations; trains them in cooperation through a work and play program planned largely by themselves; develops leadership through tasks assumed in keeping with their abilities and for the service of others; helps them to earn and save for their education; helps them to establish homes of their own; and finally, because their attention is constantly being focused upon the needs of their own communities and the possibilities for improvement, develops a sense of community responsibility that stimulates them to participate in community improvement activities alongside their parents and neighbors on a common basis. Thus, in the United States, for more than a quarter of a century through the work of the 4-H agricultural and homemaking clubs, rural young people from 10 to 21 years of age, over 10,000,000 in all, have been helped to take their places in their own homes and communities as young citizens, imbued with the desire to do, to earn, and to serve. This consciousness of their own importance and of the importance of their 4-H activities to the welfare of rural communities has led them to manifest those qualities of worth and integrity that make character and, in turn, have often helped them to become leaders in the important civic affairs of State and Nation.

SUMMARY OF THE CONFERENCE

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Introduction

This has been a Conference to help the United States Department of Agriculture answer some of the questions it is being asked by foreign workers as to how it "gets over" to the farmers of America the information they need—to produce, to market, and to live in a way as efficient and worth while as possible. The very holding of this Conference under the auspices of the two cooperating agencies of the Department is proof that we do not know all the answers for all farmers in all countries, "not by a jug full" as one of my farmer friends would say.

We have called this Conference one to outline the contribution of extension methods and techniques toward the rehabilitation of war-torn countries. "Extension" is simply a word we use to indicate the whole complex of activities that enter into a program educational in its philosophy, its focus, its objectives, and its methods. Extension is preeminently a method and a process, not a system. It is a program that has developed here over 30 years, and always has been built upon the needs of rural people. Its strength and its faults in considerable measure grow out of those needs. It is never far from the grass roots.

By the same token the programs and procedures among the 48 States show sharp differences. They show similarities and unities also, but what Maine needs in specifics is different from what California requires, and the county agent from a wheat county in North Dakota would feel more strange and diffident in a cotton or a sugarcane county in our South than in the great wheat area of northwestern New South Wales in Australia. This knowledge of the diversities in needs and conditions among our States helps us to appreciate to some degree the complex diversities among the farming areas of the world.

Extension Defined

This thing we call "extension" has meant, as Director Wilson says, "better homes and better farms with which to feed, clothe, and strengthen the Nation." It has also meant better organized, better functioning communities. It has proved that when the force of education is released in homes and on farms, in communities and counties, social processes are affected and social change takes place.

Put another way, we know that Extension is simply the effort to put vital information of the agricultural scientist, whether he be physical or social scientist, at the disposal of the farmer and his wife. It is

the battle to narrow the gap between ever-advancing knowledge and practice, whether that knowledge relates to soil analysis or conservation, to animal husbandry or human nutrition, to community organization or parent education.

We know that just as education of sorts exists both in the most primitive tribe and in the university, so Extension, by whatever name known, exists in many countries other than the United States often in highly developed forms, sometimes with a longer history than here. We of the United States gratefully acknowledge that our understanding of such work elsewhere has been enlarged in these last days by the contribution of nationals from other lands as well as American workers who have given this conference of their time. As Secretary Wickard said, we have tried to compare extension experience and needs in all countries so that we all could learn.

The Aftermath of War

After the First World War, an agricultural leader in this country wrote a book called *THE GREEN RISING*.³⁰ He sketched the growing consciousness of common interests among farmers of the world, the rise of agrarian parties, the influence of land hunger of the peasants upon the constitutions and national policies of nations newborn.

Today as we face the future with assured hope of victory, we face it also with doubt as to what we shall find behind the dense smoke screen of war. How much devastation of land and homes has there been? How many of those who know how to work with nature in food and fiber production are still alive? We do not know. Nor do we know whether these survivors are strong enough to do their wonted tasks through the cycle of the seasons. Will fate again unloose, as in 1918-19, the plagues of disease? We cannot tell. But this we do know: There is enough to do, and more, to tax the skill and ingenuity, the strength and resources, the courage and faith of us all in a measure perhaps as great as in the war. And we in agriculture know this too, that, as the Maoris put it, "The land is the mother of us all; the land is the mother that never dies." Yes, under all, the land; but on the land, the people.

In such knowledge we approach our task, drawing on what experience we have. It is all we have. It must be enough. The Hot Springs Conference gave the world an over-all program of wide scope and great vision. But implicit in its proposals, and at some points explicitly, it recognized the need for education. For its program can be achieved only by men and women with their limitations in knowledge and understanding and despite their attitudes and fears. That educational task is ours in whatever land we own as home. To it we bring our methods, our techniques, our best, as our share in healing an all but mortally wounded world.

The Culture Is Basic

Facing then the farmers of the whole world with all their dissimilarities, the conference stressed one guidepost for action from the first. No program can succeed, no method or technique can get the

³⁰ BIZZELL, W. B. *THE GREEN RISING: AN HISTORICAL SURVEY OF AGRARIANISM, WITH SPECIAL REFERENCE TO THE ORGANIZED EFFORTS OF THE FARMERS OF THE UNITED STATES TO IMPROVE THEIR ECONOMIC AND SOCIAL STATUS.* 269 pp. New York. 1926.

desired results, when not in harmony with the culture of the people whom the extension worker would reach. This culture consists of the habitual and systematized ways by which people make a living, of the social organizations through which they cooperate to achieve their mutual desires and objectives, of the attitudes, the faiths, and the sanctioned ways of life. The accepted ways of communication are a part of the culture, the understanding of which is indispensable to the extension worker whose whole job is to communicate a more excellent way. Communication moreover must be a two-way process if it is to succeed. The teacher of adults can always learn from the taught. If the channels are not two-way the very ideal and practice of democracy is endangered. Only the dictator fears to listen to the voice of the people. This culture, moreover, is not only national or regional, it is also local and intimate, with an infinite variety of expression. For the national culture, as well as the great social and economic forces that sweep across the world, are experienced chiefly, and, for many, only in their home communities, and each of these single communities makes its own slight adaptation and contribution to the national culture, the world forces.

I came across an illustration of such a local adaptation or rather local resistance to a desirable practice, a few years ago in a Polynesian Christian village. The people were found to be seriously deficient in a food element that the banana would supply. Bananas were indigenous to the soil, but the people would not eat them. One day a leader, a high school graduate, explained this to the doctor who had been working with the villagers for some time. "The banana," she said with dignity, "is our cousin, and we are not cannibals."

Almost a century after accepting Christianity, a century and a half after its first contacts with Euro-American society, this group remained loyal to an ancient but deep-seated taboo. Without knowledge of the culture then, we are not qualified to begin work.

Extension of course, is always education with reference to a specific thing. But a wrong approach in terms of the culture—as, for instance, in one Christianized Pacific island I know taking up a program with the minister instead of with the talking chief, or before consulting the chief—would almost surely insure the failure of even a most worthy project.

This basic principle of adaptation to the culture and most of the other principles apply to all phases of extension work—agriculture, homemaking, and youth. As with the guideposts that follow, no further differentiation according to type of program will be made.

Rural Similarities

But similarities are to be seen even among varying cultures. The farmers of much of the world practice a hoe agriculture, not horse-power but human brawn produces their crops. Their holdings are small, their families large. Their diet is bare, their land often the property of others. Untutored they are, though not unintelligent, and a majority live not on scattered holdings but in villages. They share with many of their colleagues, more fortunate perhaps in some of these respects, the burden of high interest charges and debt; the problem of obtaining a fair return in the market place for their toil, of rearing and educating half their children to renew the thinning blood

of the cities, of achieving for themselves some degree of social and economic parity with other elements in society or, if you prefer, of establishing for themselves those freedoms the leaders of the great democracies declare to be essential for the enduring peace of the world.

Relief and Rehabilitation

These similarities in rural problems give a strong basis for the guideposts of extension education reported today. They apply in varying degree to both relief and rehabilitation. The first has priority, but the second stems from the first and grows as the first declines. Moreover, if relief is the chief need, a primary principle of extension is to deal with conditions as they exist.

We have had cataloged for us a number of the pressing problems that will rise immediately in war-torn countries. Fertilizer is lacking; livestock has been reduced; stocks of everything from seeds to medicine are depleted; home and farm buildings and their equipment have been damaged, destroyed, or depreciated; children are undernourished and frustrated; clothing is worn out. These and other things will confront us. Moreover, it may well be that the extension services will be given the responsibility for assisting repatriates and other resettled groups to develop agricultural programs adapted to the areas in which they are; and for developing educational programs to assist the settlers in adjusting to their new environment, and a satisfying family and community life.

In much of the world also, in addition to the destruction and dislocation of war, there presses upon the people the all-pervading force we of the West call civilization, engulfing not only simpler social systems but all the manifestations in the arts and crafts of living. Tardily, too few are appreciating some of the values that have been destroyed. This adds to the extension problems.

Guideposts and Principles

In attacking all situations encompassed in the term "extension," the democratic method has proved effective and should be encouraged. Programs should be worked with groups of local farmers and homemakers, not for them. People learn through their own participation, their sharing in various projects. Thus is a project theirs, not another's. Where possible, this participation should extend to local contributions in support of the enterprise.

The process of democratic education is helped also by the use of local unpaid volunteer leaders, after they are trained by the professional worker. Such persons should be chosen where possible by their own neighbors. The general qualifications may be suggested. This helps to extend the vital factor of participation, helps to root the project in the local soil, safeguards the extension credo that one of the important aims is self-help. Use of such volunteers means also the employment of informal methods of instruction. This is a characteristic of extension. The field, the home, and the community hall—not the classroom—are its locale; experience rather than books is its content.

This is not to say that extension must be an organization apart, claiming the major leisure-time investment of its constituents. Wherever and whenever possible, extension activities should be related to

existing agencies such as cooperatives, churches, women's and youth's organizations and, especially in many countries, schools. Indeed, sound community organization principles are fundamental to extension work. Especially in village societies, programs should be aimed at the whole community.

In this community approach, one implication is clear. Extension is for all, yet groups, even classes, do exist in many societies. The large landowner has no more claim on extension than does the small tenant, though the needs will differ, as will the educational approach in meeting those needs. I am thinking here, for instance, not only of the rubber and tea plantations of the tropics, but of the cotton plantations of our own South. Let us not forget, we who are Americans, that, as already stated, we have similarities to other countries among our own disadvantaged groups on the land.

In passing, let me add that this community approach in many parts of the world may involve a wider extension program than we have here in the United States. In some areas the income of the farm family is supplemented in the season of slack farm work by employment in some subsidiary industry, often on a cottage basis. Usually such work is necessary for economic survival. It may be rice-straw shoes as in parts of Japan, pottery as in many places, other arts and crafts as in India or some of the Pacific islands. Increasingly, problems of improved production techniques even in hand-manufacture and of marketing are affecting such activities. The solution of these problems is important to the farm population engaged in such work and once extension is established they will expect help in these particulars as in the more conventional activities.

Any programs, we agree, must meet the felt needs of the people, but we must recognize that one of the chief functions of extension leadership is to help bring people to our awareness of their needs, both immediate and long-time. Thus extension facilitates change and helps people to adjust to the changes forced from outside by new inventions, changes in markets, political developments.

Thus several of our committees reminded us that extension education aims at action—individual, family, community-wide. To this end on the community level extension can well assist in organizing for desirable action, though it does not of itself take that action. Only the people awakened to a need can do that. The case studies that have been made available to working groups of this conference give many illustrations of this principle.

All this is but to say that extension programs must be based on conditions, though conditions are local, regional, national, and even international in character.

But at this point a warning must be injected. All-round programs must be developed gradually. People can be led, not pushed, and too much pressing from leaders, too rapid development, will prevent understanding, destroy confidence and participation. Rather, one, two, or three projects at a time successfully completed will build morale through a sense of achievement, reduce failure, and pave the way for more rapid, long-time development of the whole program. Social engineering through extension education is a process, not a laboratory or experiment-station exercise.

There is another reason for this warning. Any successful program brings changes, and not all of these may be foreseen. It is essential

to see the farm, the home, the community as wholes—not segments—and in their interrelations. When this is recognized, when firm foundations have been laid, then a comprehensive, well-balanced program involving all phases of farm and home life for both adults and youth should be undertaken, so that the development of any one phase may not be hampered by inadequate attention to related problems. Increased agricultural efficiency and income should be translated into more abundant and wholesome family living.

Such a well-balanced program can and should be as broad as the recognized needs of rural life. We were reminded more than once that extension is not simply agriculture or home economics, not just technical, but that social and cultural activities and knowledge have an important place as an integral not a peripheral part of the continuing long-time program; assuming of course that such needs are not met by other agencies. The problems must be correlated, the programs integrated. That is why health, nutrition, marketing, credit, social, and recreational programs have their place.

Moreover, the program must be flexible, changing as needs and conditions change, going forward to new areas as improved practices that once had to be demonstrated become part of the behavior pattern of the community.

This also is just one of the reasons why extension should not deal simply with men, as too often happens in many countries, but also with women, boys, girls, and older youth. For the farm family is a unity, and all the members understand its essential and primary task of production, and, at some time, share in this task.

With all this stress on farm, home, and community needs, as a basis for the extension program, those engaged in such activities for rural people must correlate and harmonize their work with national policy.

Perhaps this section on guideposts can be concluded by a statement made by one committee:

Orientation is required in thinking, in line with the modern viewpoint of education for living. Greater progress in extension may be expected if it is realized that the satisfactions to rural peoples brought about by improvements in their conditions can be the satisfactions of the entire nation, that the security of rural peoples is the basis of security for all, that their dignity is the real basis of honor for the nation, that through the training of men's power to make happy homes in which children can grow healthfully and satisfactorily, farmers are given their right as citizens of a new era.

Methods

I have dealt largely thus far with principles—guideposts—for extension work and in terms of methods broadly interpreted rather than with techniques. The latter are important, but are perhaps better known. Demonstration, for instance, is a tried and tested tool. Group discussion fits well into certain problems. The use of radio opens new possibilities. Visual education in a variety of ways is but at the threshold of its development, particularly in lands where pictures, especially moving ones, are considered almost a miracle. And as illiteracy disappears, and where it already has, the more visual tools such as printed words, chosen for the educational level of the constituents, are available. And there are methods that fit the local culture as neatly as the old town crier served colonial New England, such as the itinerant storyteller of China; the use of drama, locally far better developed in some areas than in the United States; the

pageant; or even the symbolic dance. And to all techniques used, extension needs to apply the increasing knowledge we have and will have of the laws of adult learning.

One of these laws is that we cannot assume, especially where extension is new, that people will understand at once our objectives and techniques. Illustrations and repetition are necessary. So also extension must use only materials and practices that can demonstrably produce results.

Throughout our discussions we have emphasized that extension is a socioeducational process. A serious handicap to its work, therefore, even in the holy name of economy, would be to saddle it with inspections and regulatory activities. This takes a different type of personnel.

Personnel

But what about the person who does extension work and is to operate these principles and methods we have set forth? Only three committees considered this important question. They called for people with rural background and a desire to be educators, for those wise enough to be friendly and human and to recognize the worth and intelligence of the simpler and perhaps illiterate peasant; who can understand people and problems; who is not only motivated by the convictions and ideals of the educator, but can understand and organize communities; and who preeminently can win and hold the confidence of their people.

Such persons were felt to need education in the technical fields, in rural sociology and economics, and in the psychology of adult learning, adapted to the areas they will serve. Once employed they should be sustained by effective in-service training.

Private Agencies

Extension thus far has been discussed in the large without qualification as to the source of its support, public or private. Many of us have assumed it to be public. Private agencies serving in many parts of the rural world have made great and successful contributions that may well be kept in mind. Even such a significant achievement as the mass education movement in China began and for years continued as private enterprise. The principles and methods of extension vary little as between public and private agencies, but the illustration just used points to a unique contribution. The private agency again and again has been a pioneer, an experimenter, a pathfinder. Government must be more conservative, but can—and gladly does—use and extend the results of proved experiment.

So far we seem to agree, always remembering that these guideposts, principles, and especially such methods and techniques as we have suggested, must be adapted and modified as they are applied to any given culture if they are to succeed in that culture.

Broader Considerations

But this was not the whole conference. In the minds of all of us as we worked was the world as it is today in the last throes of a universal, civil war. That tragedy came close to us as Vice President

Wallace spoke simply of what he had seen in China, of her problems and what they meant to us. It came close again as Dr. Yen in the high faith born of his and his colleagues' success in initiating the peaceful revolution by the education he described, pledged that his nation, despite its longer, deeper, and more awful suffering, would stay true to the end. And by that pledge he challenged us to stay true to the freed and free world, to achieve a peace that should be a peace indeed, and not a long armistice. This is no occasion, even were there the time, to enter a plea for internationalism, a plea for the United Nations to remain united. But to point out one implication for the extension program not covered in our reports is fitting because it is outside their province. We in the United States have learned in these last 25 years that many of the problems vitally affecting agriculture lie outside the line fences of our farms. When, as a result, a democratic people attempts to build a national agricultural policy, the nation must pass on it. The city man who buys the farmer's food must have his say. The farmer who sells the food must speak his mind, must urge his necessities. Each must regard the other.

In our heads we have learned this American society of ours is interdependent. In our hearts we have not yet written that lesson. We know the close correspondence between industrial wages and farm income and other such factors, but we still see special groups seeking special advantage.

We watch the growing industrialization of the world and observe that patterns of industrialization are everywhere similar and produce similar problems, both economic and social. We note that such industrialization has similar impacts upon and raises similar problems for agriculture. Moreover, we see similar solutions proposed and adopted. For instance, the farm credit legislation in the United States and in Australia is not only similar, in some phases it is practically identical. And "down under," they also have production control in some crops. Or again, the farm-relief legislation proposed in the Japanese Diet of 1927 was first cousin to the McNary-Haugen bill.

One day in 1927 I went by de luxe train, by automobile, and, when the roads grew too narrow, by a model T, and finally by sedan chair and muleback to a farm community in the Japanese Empire. On my return, a plane was at my disposal to reach a meeting with the governor in time. In a day I traversed not merely 150 miles, but the whole history of human land transportation. What did I see? Farms? Yes, but more important I saw farmers trudging on foot to the market town each bearing on his back a bag of rice. And as I returned, so did they, carrying on their backs or in their hands the gadgets of a machine economy taken in exchange for the product of their toil. And you can see as did I the alternative before agriculture.

Either those farmers would become the exploited slaves of an industrialized Japan, or industry would discover that a well-paid agriculture was a profitable market, and agriculture would find that a prosperous industrial population bought more food at better prices or, if either awoke and the other did not, there would be war, civil or aggressive.

The implication, I am sure, is clear, but for logic's sake yield me the satisfaction of stating it. We can and must teach better agricultural methods. We can and must teach improved home and nutritional practices. We can and must instruct in improved sanitation and

health practices. We can and must help rural people by instruction in better marketing methods, cooperative or otherwise, and better community organization for achieving democratically determined goals. Of these things the case studies prepared for this conference are ample illustrations and evidence. But when we have done all these, we have left undone some even weightier things. The farmer must learn about those factors outside his line fences, his own community, and increasingly outside his own nation. They may make the difference between prosperity and foreclosure for him. He must learn about them for his own safety, for his adequate planning, and so can participate in democratic decisions with respect to them.

I used the word "interdependent" a while back. It applies not only within nations, it applies also among nations. Self-interest for agriculture demands recognition of and behavior consonant with that fact. The civil servants of agriculture know this, and so we have international wheat conferences, Chadburne sugar and Stevenson rubber agreements. But the farmer himself must grasp this fact in all the power of its meaning for his acres—and his nation. That means education. Extension is education. So to teach is but agricultural statesmanship applied to extension education.

The farmer the world over is a man of peace, for he deals with living things—plants, and animals. He is a producer, not a destroyer. Only under great provocation does he beat his plowshares into swords. The green rising of the early 1920's, like many others that gave men hope, spent its force against the growing nationalisms of a fevered world. We see more clearly today than we did then what is involved and what is needed. Unless we apply that which we have learned and know in these most vital and more difficult areas, we have lost one of the great potentialities of extension—and worse, we have lost our chance where we are, by our leadership of rural people, to help achieve the deep desire of all decent men for a fair, just, enduring peace. Science has served with unstinting effectiveness in war. Our job in the rural world is to make it serve gloriously in and for peace.

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